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A Marine Boundary Layer Sampling Flight in Clear Air

DONALD J. VARLEY, Lt Col, USAF



10 January 1979

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METEOROLOGY DIVISION PROJECT 317 J
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SECURITY CLASSIFICATION OF THIS PAGE (When Date Entered) READ INSTRUCTIONS BEFORE COMPLETING FORM REPORT DOCUMENTATION PAGE . REPORT NUMBER AFGL-TR-79-013 REPORT & PERIOD COVERED Scientific. MARINE BOUNDARY LAYER SAMPLING FLIGHT IN CLEAR AIR 6. PERFORMING ORG. REPORT NUMBER Donald J. Warley Lt Col, USAF PERFORMING ORGANIZATION NAME AND ADDRESS Air Force Geophysics Laboratory (LYC) 63605F Hanscom AFB 317J 0901 Massachusetts 01731 1. CONTROLLING OFFICE NAME AND ADDRESS 19 Januar Air Force Geophysics Laboratory (LYC) Hanscom AFB Massachusetts 01731 CLASS. (of this report) 14. MONITORING AGENCY NAME & ADDRESS(II different from Controlling Of Unclassified 15a. DECLASSIFICATION DOWNGRADING 16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited. 17. DISTRIBUTION STATEMENT (of the obstract entered in Block 20, If different from Report) 16. SUPPLEMENTARY NOTES 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Boundary layer Particle distribution micrometers Cloud physics Sea spray The AFGL-instrumented MC-130E aircraft made several 8-min particlesampling passes off the San Francisco coast on 10 July 1978 at levels from 100 to 1000 ft altitude. Spectrometers capable of recording particles from 2 to 6400 mm were used, but in the existing cloudless conditions only particles between 2 and 30 µm were detected. These were recorded by the PMS axial scattering spectrometer probe. Visibility was estimated at 7 miles with a slight amount of haze during most of the sampling; however, the particle populations varied widely, and the computed liquid water content varied from DD TAN 75 1473 EDITION OF I NOV 65 IS OBSOLETE Unclassified

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SECURITY CLASSIFICATION OF THIS PAGE(When Date Entered, 20. Abstract (Continued) 10^{-6} to 10^{-2} g m⁻³ while passes were made at the 100 and 200 ft levels. The 300 ft level was relatively particle-deficient, but the particle concentration at 400 ft was similar to those at 100 and 200 ft. Average particle counts decreased significantly between 500 and 1000 ft, as compared to lower levels.

Preface

My appreciation is extended to Captain Donald Cameron, MSgt Tom Moraski, and MSgt Steve Crist of AFGL, and Keith Roberts of Digital Programming Services, Inc. (DPSI) who flew with me on the sampling MC-130E and who were instrumental in obtaining the particle data described in this report. The outstanding support of 4950th Test Wing personnel, particularly Lt Col Charles Rierson and Maj Ken Belden who flew the aircraft through this unusual mission, is also greatfully acknowledged. Dr. Arnold Barnes, Jr. and Dr. Robert Cunningham provided several excellent suggestions to improve the technical content of my original manuscript, and Ms Barbara Main processed auxiliary information for the report. Computer processing of all data was accomplished by Michael Francis and James Lally of DPSI.

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Contents

INTRODUCTION	7
PREVIOUS LOW LEVEL PARTICULATE STUDIES	8
SYNOPTIC SITUATION	12
THE FLIGHT	15
DISCUSSION OF SAMPLING RESULTS	18
CONCLUDING REMARKS	27
FERENCES	29
PENDIX A: Average Particle Distributions for Eight Passes	31
PENDIX B: Average Particle Distributions for 20-Second Peri	ods 37
	Illustrations
Surface Pressure Analysis 10/21007 July 1978	13
	13
사용하다 살아보니 아들아가는 그들은 이 이 집에 하는 것이 하는 것이 되었다. 그리고 있는 것은 사람들이 되었다.	14
	14
	Surface Pressure Analysis 10/2100Z July 1978 850 mb Analysis 0000Z, 11 July 1978 DMSP Satellite Visible Picture 1708Z, 10 July 1978 Temperature and Wind Data From 0000Z, 11 July 1978

Illustrations

5.	Aircraft Sampling Routes and Direction for 10 July Flight	15
6.	Photograph of Sampling Area at 1924Z on 10 July 1978 From 100 Feet Above Sea	17
7.	Sampling Area at 2010Z From 500-Foot Altitude	17
8.	Variation of Aircraft Altitude, Outside Temperature, Mean Particle Diameter, and Liquid Water Content During 10 July 1978 Flight off California Coast	20
9.	Particle Concentration vs Particle Size for Data Averaged During Passes at Indicated Altitudes	21
0.	Vertical Variation of the Concentrations of Four Sizes of Particles on 10 July 1978	23
1.	Variation With Time of Concentration of Four Particle Sizes During Sampling Passes at Altitudes Indicated	25
		Table
1.	Sampling Pass Data	16
2.	Average Number of Particles of Size Indicated Per Cubic Meter	22

A Marine Boundary Layer Sampling Flight in Clear Air

1. INTRODUCTION

On 10 July 1978 the 4950 Test Wing's instrumented MC-130E aircraft made several low level atmospheric sampling passes for AFGL about 40 miles off the coast of San Francisco, California, in clear air. The purpose of the flight was to obtain information on the concentration of particles in the layer between 100 and 1000 ft above the ocean for the Air Force Weapons Laboratory's Advanced Radiation Technology Program. The smallest particles detected by the on-board instrumentation were estimated to be 2 μm in diameter. Smaller particles were present but could not be measured by the equipment available on the aircraft.

Although several studies of off-shore fog and stratus have been made through the years, ¹⁻³ relatively few have examined low level particle concentrations during cloud-free conditions; however, this deficiency is gradually being remedied. As interest in boundary layer conditions and new technologies has increased, more

⁽Received for publication 9 January 1979)

Anderson, J.B. (1931) Observations from airplanes of cloud and fog conditions along the Southern California coast, <u>Month. Wea. Review</u>, 59:264-270.

Fowler, M.G., Blau, Jr., H.H., and Fasci, Jr., E.W. (1974) Cloud droplet measurements in cumuliform and stratiform clouds. In Preprints of Conf on Cloud Physics, Tuscon, Amer. Meteor. Soc., pp 296-300.

Goodman, J. (1977) The microstructure of California coastal fog and stratus, Jour. Appl. Meteor., 16:1056-1067.

studies have been made of the geophysical properties and their variations in the half kilometer above the earth's surface. Several articles in the fall 1975 edition of the National Center for Atmospheric Research's (NCAR) publication,

Atmospheric Technology, point out the importance of both the marine and continental boundary layers from a geophysical standpoint, and describe some of the methods being used to investigate them.

2. PREVIOUS LOW LEVEL PARTICULATE STUDIES

Early measurements of drop-size fogs off New England were conducted by Houghton and Radford, 4 who found that median volume diameters ranged from 25 to 75 μ m with an average of 34 μ m. Later, Houghton 5 compared these values to similar ones for various types of stratus and cumulus clouds and pointed out that a striking feature was the large size of fog drops as compared to cloud drops.

More recently Goodman, 3 using an instrumented tower in San Francisco, found the mean diameter of particles in low-lying Pacific stratus to range from 4.5 to 10.5 μ m. His data also indicated that there were broader drop-size distributions near the inversion topping the boundary layer than there were near the surface.

Woodcock and Gifford 6 obtained detailed information on the drop-size distribution of nuclei in the marine boundary layer up to 300 m over Woods Hole and up to 1150 m over Bermuda. The largest and smallest nuclei had masses of 2×10^{-9} and 5×10^{-14} g, respectively. These weights correspond to diameters of 24 and 0.7 μ m at a relative humidity of 80 percent. In the thermally stable conditions at Woods Hole the number of nuclei fell off rapidly at higher altitudes, but in the well-mixed air over Bermuda they were much the same from the surface to 1150 m.

In 1953, Woodcock⁷ reported on measurements of size distribution of giant sea salt nuclei over the sea near Hawaii. He found that as winds increased so did the number and sizes of particles. He suggested these increases were due to the increased numbers of bubbles trapped in whitecaps, which on bursting projected

Houghton, H. G., and Radford, W. H. (1938) On the measurement of drop size and liquid water content in fogs and clouds. Pap. Phys. Ocean. Meteor. M.I.T., Woods Hole Ocean. Instn., 6(No. 4).

Houghton, H. G. (1951) On the physics of clouds and precipitation. In <u>Compendium of Meteorology</u>, Amer. Meteor. Soc., pp 165-181.

Woodcock, A.H., and Gifford, M.M. (1949) Sampling atmospheric sea-salt nuclei over the ocean, <u>Jour. of Marine Res.</u>, 8:177.

Woodcock, A.H. (1953) Salt nuclei in marine air as a function of altitude and wind force, Jour. of Meteor., 10:362.

small droplets of sea water into the air. Mason⁸ has stated that atmospheric stability has an effect on the height distribution of such nuclei. They are rather evenly distributed through layers in which the lapse rate exceeds the adiabatic, but in a stable layer their concentration falls off rapidly with height.

In making simultaneous aircraft measurements of cloud condensation nuclei and of sodium-containing particles (SCP), Hobbs 9 found the number of SCP decreased sharply with height above the ocean off Washington. However, even as low as 50 ft over the ocean and surf, the concentrations of SCP were only a few percent of the concentrations of cloud condensation nuclei. The concentrations of such nuclei did not vary appreciably with height, even near temperature inversions, up to at least 10,000 ft.

The earth's boundary layer is particularly significant to those desiring to utilize it productively or to minimize its degrading effects on certain experimental or operational systems. Mooradian et al¹⁰ point out that the main factor determining the amount of time that optical communications over a given distance at a given bit rate can be achieved is the meteorological visibility. This changes drastically in the frequently hazy marine layer over large bodies of water.

The relation of visibility to other meteorological conditions in the boundary layer has been studied extensively by many writers, including H. L. Wright. He showed that atmospheric opacity varies with particle concentration and relative humidity, and that as a constant number of hygroscopic nuclei in the atmosphere are subjected to an increasing humidity, they increase in size as more and more water condenses on them. Middleton indicated that up to a diameter of 1 μ m the hygroscopic nuclei show selective scattering in visible light, which makes them appear bluish by reflection. These are haze particles. This selectivity practically disappears in larger particles. When larger particles result in visibility reductions, it is said to be a result of fog, which is usually colorless (or white, as opposed to red, blue, or green). In a later publication Middleton used the word

^{8.} Mason, B.J. (1971) The Physics of Clouds, Clarendon Press, London.

Hobbs, P.V. (1971) Simultaneous airborne measurements of cloud condensation nuclei and sodium-containing particles over the ocean, Quart. Jour. Royal Met. Soc., 97:263-271.

Mooradian, G.C., Geller, M., and Giannaris, R.J. (1976) Optical communications in the marine layer. In Proceedings of the Optical-Submillimeter Atmospheric Propagation Conference, Vol. I. Sponsored by Office of Director. Defense Research and Engineering, pp 13-33.

Wright, H. L. (1940) Atmospheric opacity at Valentia, Quart. Jour. Roy. Meteor. Soc., 66:66-77.

Middleton, W. E. K. (1951) Visibility in meteorology. In Compendium of Meteorology, Amer. Meteor. Soc., pp 91-97.

Middleton, W. E. K. (1968) Vision through the Atmosphere, Univ. of Toronto Press, 250 pp.

fog to refer to aerosols containing droplets of 4 μm diameter or greater, and haze to consist of smaller particles.

Eldridge 14 found that the water content of an air mass is well correlated with the visibility through it when only particles in the 0.6 to 20 μ m diameter range are considered. When only these particle sizes are involved in water-content calculations, he found visibility in stable fog/haze situations to be well predicted with the equation

$$V = 0.024 \text{ w}^{-0.65}$$

where

V = visibility (km)

w = liquid water content (g m⁻³).

Chýlek 15 has shown that a linear relationship should exist between visible/ infrared extinction and liquid water content (LWC) independent of particle size distribution — but only for a wavelength determined by the radii of the largest particles in a polydispersion of droplets. In considering the size of the largest droplets in fogs and nonprecipitating clouds, he believed $11~\mu m$ was the most suitable wavelength at which a linear relationship between the extinction coefficient and LWC should exist. Chýlek also believed a similar approximation at shorter wavelengths should be applicable to the extinction and LWC of hazes, but this was not studied.

Pinnick et al 16 obtained fog and haze particle data in Germany and showed that Chylek's relationship between extinction and LWC was accurate. That is, at least for radiation at 0.55, 1.20, 4.00, and 10.00 μ m, there does exist a nearly linear relation between extinction and LWC. The data of Pinnick et al also showed little vertical variation of particle population in haze, but increased concentrations with height of 4 to 16 μ m radius droplets during fog conditions with visibilities <1 km. These latter increases resulted in extinction coefficient increases of 2 to 1000 in the first 150 m of altitude above the surface.

^{14.} Eldridge, R.G. (1966) Haze and aerosol distributions, Jour. of Atmos. Sci., 23:605-613.

Chylek, P. (1978) Extinction and liquid water content of fogs and clouds, Jour. Atmos. Sci., 35:296-300.

Pinnick, R.G., Hoihjelle, D.L., Fernandez, G., Stenmark, E.B., Lindberg, J.D., Hoidale, G.B., and Jennings, S.G. (1978) Vertical structure in atmospheric fog and haze and its effects on visible and infrared extinction, Jour. Atmos. Sci., 35:2020-2032.

Some meteorological phenomena affecting laser beam propagation in the boundary layer are listed by Cordray et al¹⁷ as: wind velocity, absolute water vapor, temperature turbulence, aerosols, and jitter. In the relatively dense air near the surface, laser transmissions are also affected by "thermal blooming" when the laser beam heats the air and decreases its index of refraction. This results in a deflection of the beam into the wind and an increase in beam size.

One of the agencies most active in experimenting with transmissions through the boundary layer is the Naval Research Laboratory. Cosden et al 18 have presented some of the data acquired by NRL's Infrared Mobile Optical Radiation Laboratory over a 5.1 km over-water path near Cape Canaveral AFS, Florida. The objective was to obtain precisely calibrated high resolution atmospheric transmission spectra in the 3 to 5 μm and 8 to 14 μm atmospheric windows suitable for comparisons to computer models. The development of some of these models profited greatly from the work of McClatchey and Selby 19 and Selby et al 20 who presented high resolution transmittance curves for the 0.25 to 31.25 μm spectral region.

The particle spectrum examined in the present study extended over the 2 to $30~\mu m$ region measured by the Particle Measuring Systems (PMS) axial scattering spectrometer probe on our MC-130E aircraft. The detection by this device of one particle of a given size in an 8-min sample (used in Appendix A) equates to a particle population of approximately 46 per cubic meter. If no particles are counted in an 8-min sample, the actual population is between 0 and 46 m⁻³, which for the size is frequently considered insignificant for purposes of visibility degradation.

Cordray, D.J., Fitzgerald, J., Gathman, S., Hayes, J., Kenney, J.,
Mueller, G., and Ruskin, R. (1976) High energy laser propagation
meteorological sensitivity analysis. In Proceedings of the OpticalSubmillimeter Atmospheric Propagation Conference, Vol. I, 6-9 Dec 1976.
Sponsored by Office of the Director, Defense Research and Engineering,
pp 491-500.

Cosden, T.H., Curcio, J.A., Dowling, J.A., Garcia, D.H., Gott, C.O., Guttman, A., Hanley, S.T., Haught, K.M., Horton, R.F., Trusty, G.L., and Agambar, W.L. (1977) Data Compendium for Atmospheric Laser Propagation Studies Conducted at Cape Canaveral, Florida, Feb-May 1977, NRL Memo Report 3611.

McClatchey, R.A., and Selby, J.E.A. (1974) <u>Atmospheric Attenuation of Laser Radiation From 0.76 to 31.25 μm</u>, <u>Environmental Research Papers</u>, No. 460, <u>AFCRL-TR-74-0003</u>.

Selby, J.E.A., Shettle, E.P., and McClatchey, R.A. (1976) Atmospheric Transmittance From 0.25 to 28.5 μm: Supplement LOWTRAN 3B, (1976) Environmental Research Papers, No. 587, AFGL-TR-76-0258.

Brief descriptions of the scattering probe as well as the PMS cloud droplet and precipitation probe are given in a previous AFGL report, ²¹ along with an outline of the data format that is used on ensuing pages. The cloud and precipitation probes, which record particle spectra between approximately 30 μ m and 4500 μ m, were both operated during the 10 July sampling, but they recorded almost no particle counts since there were no visible clouds. A description of the generally excellent weather prevailing in the sampling area off the California coast is given in the following section.

3. SYNOPTIC SITUATION

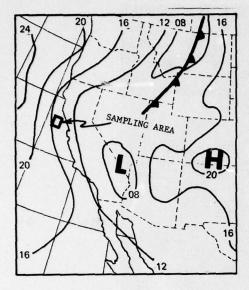
The surface synoptic feature dominating the weather along the West Coast on 10 July was a large high pressure region centered about 25 degrees west of Eureka, California. Aloft, at levels above about 850 mb (~1.5 km MSL), a migrating low pressure cell that had been over Vancouver Island the previous day was moving over southeastern British Columbia. Off the coast these two systems resulted in a generally northerly to northwesterly flow near the surface, backing to a westerly to southwesterly flow near 850 mb.

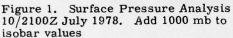
A weak surface cold front beneath the upper level low moved through Idaho and Montana, bringing some rain to northern Idaho and western Montana. The on-shore flow also brought low clouds and light precipitation to the western part of Washington. Almost all of California, however, was under cloud-free skies through the day. Figure 1 shows the isobaric pattern at the approximate time of the sampling flight off San Francisco. The small low cell in that figure over southeastern California and southern Nevada was related to the thermal conditions. It was nearly stationary and resulted in only isolated thunderstorms or rain showers later in the day.

Indications of a trough aloft from southeastern British Columbia and western Montana through central California are reflected on the 850 mb chart of Figure 2. Slightly colder air was being advected southward off the coast as a result of the counterclockwise circulation around the Canadian low and clockwise flow around the Pacific high. Petterssen²² believed that such a flow of cold air over the warm water near San Diego was conducive to marine fog — even though fog sometimes forms from warm air moving over a cold water surface. He indicated the marine fog in that area of the eastern Pacific Ocean is convective in nature. This hypothesis

Varley, D.J. (1978) Cirrus Particle Distribution Study, Part I, Air Force Surveys in Geophysics, No. 394, AFGL-TR-78-0192.

^{22.} Petterssen, S. (1938) On the causes and the forecasting of the California fog, Bull. Amer. Meteor. Soc., 19:49-55.





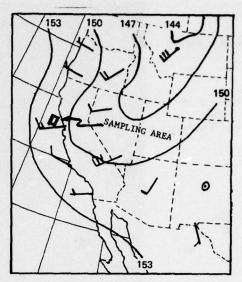


Figure 2. 850 mb Analysis 0000Z, 11 July 1978. Contours in tens of geopotential meters

seems to explain the large area of fog and low stratus along the coast that is well shown in the Defense Meteorological Satellite Program picture in Figure 3. The east-west extent of the cloud along the Southern California coast, where water would be relatively warm, was much greater than it was farther north.

The coastal stratus did not penetrate inland more than a very few miles, except in the flatter topographic areas. By the evening of 10 July, however, Los Angeles was shrouded in the low cloud and was also affected by high air pollution levels. The northern limit of the stratus was near San Francisco, but the airport there reported clear skies, 15 miles visibility, 68° F temperature, 51° F dewpoint, and winds $260^{\circ}/14$ kt at 2100Z when the sampling was being made. A remark appended to the 2100Z observation from San Francisco indicated stratus could be seen south through west and northwest.

There are few manned weather reporting sites immediately on the coast, but at 2100Z, Bodega Bay, about 30 miles northeast of the sampling area, reported fog with 4 miles visibility, west-northwesterly winds at 11 kt, and $64^{\circ}F$ temperature. At Point Arena, on the coast 50 miles north of the sampling site, the visibility at 2100Z was 10 miles under clear skies, the winds were northerly at 18 kt, and the temperature was $56^{\circ}F$.

Figure 4 shows the strong temperature inversion based near 1500 ft that existed along the coast the afternoon of 10 July. Aircraft observations indicated

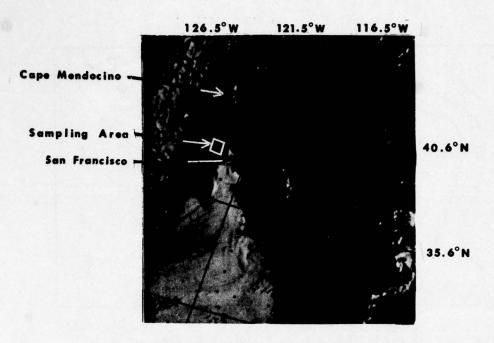


Figure 3. DMSP Satellite Visible Picture 1708Z, 10 July 1978

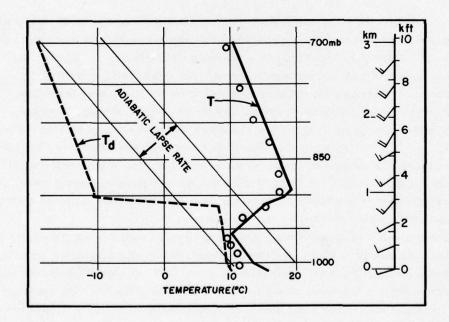


Figure 4. Temperature and Wind Data From 0000Z, 11 July 1978 Oakland, California, Sounding. Circles are temperatures determined by the sampling C-130. Dewpoint data were not available from this aircraft

that the tops of the stratus off the coast were near this level. Between 1200Z 10 July and 0000Z 11 July the winds above the inversion up to at least 10,000 ft had backed about 20° to those shown on Figure 4. Their speed did not change appreciably, nor did the speed or direction below the inversion.

The westerly to northerly winds near the water resulted in a lightly turbulent sea state. From the air several whitecaps could be seen on the sea surface. A US Navy sea-state analysis chart for the Pacific indicated wave heights in our area of interest were between 6 and 8 ft during sampling time.

4. THE FLIGHT

The sampling aircraft departed McClellan Air Force Base near Sacramento at 1843Z (1143L) on 10 July 1978 and flew west. Weather was warm and sunny, although a large area of low stratus was seen extending southward along the coast from San Francisco (as is shown in Figure 3). Approximately 10 miles west of the Point Reyes TACAN station, the aircraft began a descent to an area near the surface of the ocean that is shown in Figure 5.

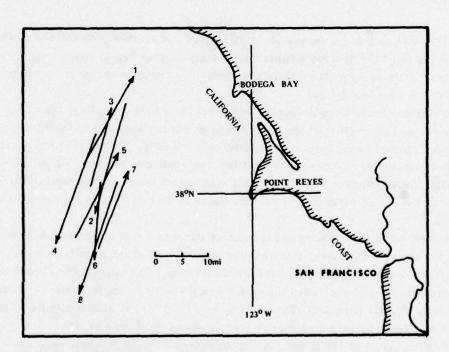


Figure 5. Aircraft Sampling Routes and Direction for 10 July Flight. Numbers at arrow tips correspond to pass numbers in Table 1

The arrows in that figure indicate the direction and length of the eight particle sampling passes made by the C-130 at various levels. The numbers at the tip of the arrows identify the pass number. The sampling altitudes of the passes and other pertinent data are indicated in Table 1.

Table 1. Sampling Pass Data

Pass No.	Altitude (ft)	Begin Time (Z)	Duration (min)	Avg Temp (°C)	General Heading	Winds (Aircraft) (deg/kt)
1	100	1924:00	8	11.4	North	10.
2	200	1935:00	8	11.5	South	315/25
3	300	1945:30	8	11.4	North	305/30
4	400	1956:00	8	11.5	South	325/32
5	500	2006:30	8	11.1	North	305/30
6	100	2017:30	5	11.9	South	345/15
7	750	2024:30	8	10.5	North	325/32
8	1000	2034:00	8	10.0	South	345/30

The sampling passes were made in northerly and southerly directions as the pilots maintained the desired altitudes as closely as possible by monitoring a radar altimeter. Data in Appendix B show the aircraft sometimes varied from the nominal altitudes by a few meters.

No visible clouds were present at any level during the sampling, but a very thin haze did slightly restrict visibility. The navigator was able to locate an occasional ship on radar before it could be seen visually. By knowing the radar-indicated distance to a ship when it first became evident to the eye, we got a good approximation of existing visibility. This was near 7 miles during most of the sampling, but it was estimated at various times to be 1 to 2 miles more or less than that.

Each of the eight sampling passes except one was 8 min in duration. At the 150-kt air speed being flown, this resulted in passes of about 20 miles length, although the northwesterly winds measured by the aircraft slightly lengthened the southward passes and shortened those to the north. As shown in Table 1, winds varied only slightly from $345^{\circ}/15$ kt at 100 ft and $315^{\circ}/25$ kt at 200 ft to $345^{\circ}/30$ kt at 1000 ft. No turbulence was encountered at any of the levels sampled.

After beginning at 100 ft and moving stepwise up to 500 ft, the aircraft descended again to 100 ft where another 5-min pass was made to obtain data to

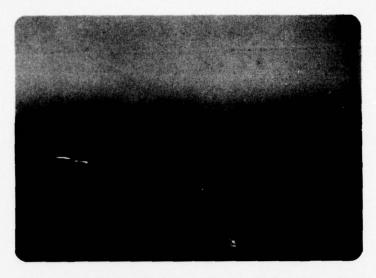


Figure 6. Photograph of Sampling Area at 1924Z on 10 July 1978 From 100 Feet Above Sea. No clouds. Visibility 6 miles. Swells 6 to 7 ft. A few degrees above horizon here and in Figure 7 the sky was dark blue

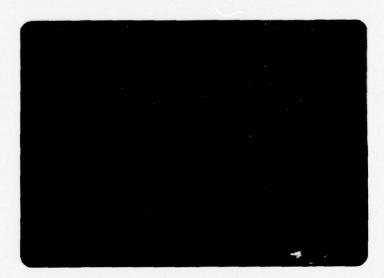


Figure 7. Sampling Area at 2010Z From 500-Foot Altitude. A slightly dark haze layer overlies a brighter area near the horizon. Ship is approximately four miles distant

compare with those of Pass No. 1. Then it was flown at 750 and 1000 ft before concluding the sampling. The winds and temperatures given in Table 1 were derived from aircraft measurements during the various passes. Between 100 and 1000 ft the temperature decreased slightly less than two Celsius degrees. The half-degree temperature difference between the two passes at 100 ft is considered real in view of the nearly one hour and several miles separating them.

Temperature data recorded by the aircraft while at higher levels are indicated on the sounding diagram in Figure 4. That figure shows good agreement between aircraft temperatures and those of the 11 July 0000Z Oakland sounding recorded some 60 miles east of the sampling area.

Figures 6 and 7 are photographs of sea and sky conditions observed at 100 and 500 ft altitudes, respectively. The first picture is looking westward, the second to the east. They are somewhat deceptive in suggesting that the visibility, in the absence of any landmarks, was less than was actually seen by eye. Figure 7 shows how sea and sky blend together at the horizon as a result of haze.

While at 500 ft, the flight director commented on the existence of what seemed to be two slightly darker haze layers in the distance. One appeared to be very near the water and the other was slightly elevated. The height of the second layer was difficult to estimate, but it seemed to be near flight level. Figure 7 shows the higher layer to be faintly visible just above the horizon. The ship in that picture is approximately 4 miles distant; however, the flight director's notes indicated it could be seen earlier, when it was about 8 miles away.

During the last sampling pass at 1000 ft, the flight director mentioned that the two faint haze layers could still be seen near the horizon. This pass was completed at 2042Z, and the aircraft then began an ascent to the east. At 2044Z, as the aircraft rose above 4100 ft, the flight director noted that the visibility had rather rapidly increased to 40 to 50 miles. This was just slightly above the inversion top shown in Figure 4, and it probably marked the entry into the clearer air aloft.

The aircraft returned to McClellan AFB at 2132Z (1432L).

5. DISCUSSION OF SAMPLING RESULTS

As previously indicated, an insignificant number of particles larger than 30 μ m was recorded during the clear air mission. The population of particles smaller than 30 μ m was, however, occasionally large and almost continuously changing, not only between passes at different levels but during individual passes at a given level.

The variations of mean particle size and of the derived quantity, liquid water content (LWC),* are shown as a function of time and altitude in Figure 8. The top portion of the figure reflects the variation of outside air temperature during the sampling. Also shown is the aircraft flight profile for several north and south passes.

The particle diameter and LWC data on Figure 8 are both from printouts of data (most of which are in the appendix) from the PMS axial scattering probe, which records particles from 2 to 30 µm in diameter. The particle diameter values are those found at the median LWC volume. That is, half of the liqud water content is found in particles greater than this value and half is found in those smaller.

The variations of diameter size and LWC in Figure 8 are in good agreement, although greater amplitudinal changes are shown in the LWC plot. Such LWC changes are always numerically greater than those of the related diameter changes (with time) because the LWC of a droplet is dependent on the third power of the droplet radius. A slight shift in droplet size, therefore, causes a more significant change in the associated LWC.

Since the entire mission was made in clear air under blue skies, it was interesting to find the variation of the population of small particles that was recorded during particular passes at constant altitudes. The LWC (based on mean particle size and number) for Pass No. 1 at 100 ft altitude, for example, varied from approximately 10^{-5} to 10^{-2} g m⁻³. The 8-min passes at 200 and 400 ft show similar large changes with time and distance. The 300, 500, 750, and 1000 ft passes, however, all indicate relatively small particle diameters (5-10 μ m) and LWC values (~ 10^{-5} g m⁻³) that did not change appreciably.

The outside air temperature changed as much as 0.9°C during one 8-min pass; however, the variation of temperature during the flight did not appear closely correlated with changes in LWC or median volume diameter.

Figure 9 compares particle spectra at different sampling heights above the sea. Each individual curve was developed by averaging all spectra data for the 5- or 8-min duration of the pass. Thus, variations of particle number or size during the pass are not considered aside from the manner in which they are incorporated into the arithmetic averaging process.

The particle spectra for the various altitudes shown in Figure 9 are of interest for several reasons:

^{*}The LWC calculations assume the particles are spherical and of density = 1 g cm⁻³.

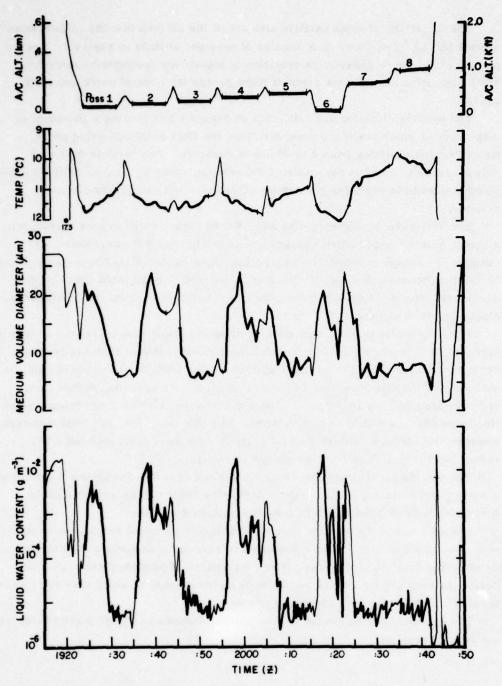


Figure 8. Variation of Aircraft Altitude, Outside Temperature, Mean Particle Diameter, and Liquid Water Content During 10 July 1978 Flight off California Coast. Dark lines reflect information obtained during specific passes, shown numbered at top

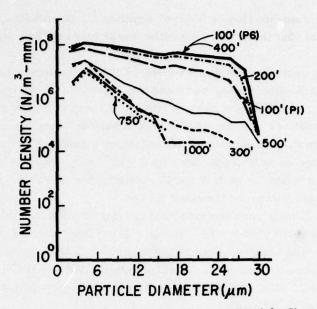


Figure 9. Particle Concentration vs Particle Size for Data Averaged During Passes at Indicated Altitudes. Two passes were made at 100 ft. They are shown as P1 (Pass No. 1) and P6 (Pass No. 6). All passes were 8 min in duration except P6, which was 5 min

- \bullet Data for the two passes at 100 ft reflect the same general shape, but particle concentrations vary by approximately one-half order of magnitude or more for sizes between 15 and 28 μ m.
- The concentrations of particles at 100, 200, and 400 ft drop off very slowly between 4 and approximately $26~\mu m$. The decline in number is more rapid for sizes larger than $26~\mu m$. At 300, 500, 750, and 1000 ft the decline in concentration is faster and does not have the bimodal hump near $26~\mu m$ that the other levels display. Such a bimodal drop-size distribution was frequently found near the surface in Eldridge's 14 examination of haze and fog in the 0.6 to 20 μm diameter range.
- Average particle number density was relatively large at 100, 200, and 400 ft but was significantly less at 300 ft. Even the concentration of particles at 500 ft was greater than that at 300 ft. Figure 8 also suggests fewer particles at 300 ft, since the LWC there was considerably less than at higher and lower levels. These data seem to confirm the existence of the two individual particle layers that were noted visually by the aircraft director. The small concentration of particles near 300 ft reflects the visibly lighter layer between a darker layer near the surface and a slightly elevated one mentioned previously in Section 3.

Particle concentration diminished significantly in ascending from the
 500 to 750 ft level, but there was very little change between the concentrations at
 750 and 1000 ft.

The particle concentration figures given in both of the appendices are normalized to a particular sampling bar width and are expressed in number of particles per cubic meter per millimeter of bar width. For many purposes it is useful to know the "unnormalized" number of particles of various sizes per given volume, that is, the number per cubic meter. To obtain such values it is only necessary to multiply the figures in the appendices by 2×10^{-3} mm, which is the spectrometer sampling bar width for each of the 15 scatter probe channels. (Different factors apply to bar widths for the other probes.)

The data in Table 2 were obtained by modifying some of the "normalized" figures in Appendix A by the 2×10^{-3} factor. This table indicates, for example, that during the 8-min sampling pass at 100 ft (Pass No. 1) there was an average of 2.32×10^5 4- μ m-diam particles per cubic meter. There were about half this number (1.03 \times 10⁵) of 10 μ m particles, and two orders of magnitude less of 28 μ m diameter particles (2.62 \times 10³).

Table 2. Average Number of Particles of Size Indicated* Per Cubic Meter (n/m^3)

Altitude (ft)**	4 μm	10 µm	18 µm	28 μm
100 (P1)	2.32×10^{5}	1.03 × 10 ⁵	4.90 × 10 ⁴	2.62×10
100 (P6)	3.18×10^{5}	2.06×10^5	1.21×10^5	3.36 × 10
200	3.62×10^{5}	1.95×10^5	1.14×10^5	1.70×10^4
300	5.94×10^4	2.76×10^3	1.95×10^2	0
400	2.78×10^{5}	1.81×10^{5}	1.15×10^5	2.88 × 10
500	6.14×10^4	8.54×10^3	1.01×10^3	2.92×10^2
750	2.56×10^{4}	1.62×10^3	0	0
1000	2.74×10^{4}	1.89×10^{3}	5.00×10^{1}	0

^{*}Sizes are channel median and include particle diameters 1 μ m larger and 1 μ m smaller; for example, the 4 μ m size includes particles between 3 and 5 μ m.

^{**}Sampling at each altitude was for 8 min, except for Pass No. 6 (P6) at 100 ft which was for 5 min.

Table 2 shows that the number of 4- and $10-\mu m$ -diam particles detected in the two 100-ft-altitude sampling passes are not too dissimilar, but the differences in the average numbers of 18 and 28 μm particles are considerably larger. The number of particles of all sizes is roughly the same for the 100- and 200-ft-altitude samples, but there is a significant decrease at the 300 ft level. At 400 ft the number of particles of all sizes increases to approximate those at 200 ft.

Figure 10 reflects the vertical variation of the concentrations of four particular particle sizes. The data are from the Table 2 tabulations, except that the two 100 ft figures have been averaged to provide a single value for the 100 ft level. Data at other levels not sampled might have brought out other significant small scale variations, but the lines connecting the 4 and also the 10 μ m values are believed representative of the vertical distributions of particles of these sizes up to 1000 ft. Lines for the 18 and 28 μ m particles were not drawn, because particle populations at one or more levels were indicated to be zero or too few to count by our instrument.

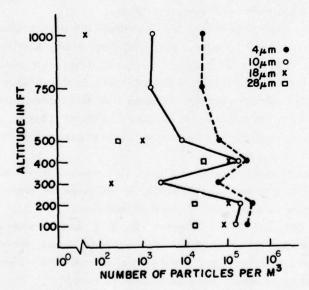


Figure 10. Vertical Variation of the Concentrations of Four Sizes of Particles on 10 July 1978. Lines connect 4 μ m and 10 μ m data points. See text

The data plotted on Figure 10 display a greater variation with height of the larger particles than the smaller ones. From 100 to 1000 ft the 4 μ m particles, for example, decreased only about one order of magnitude. Over the same height range, however, the 18 μ m sized particles decreased from 10⁴ to 10¹. Figure 10 also brings out the dearth of all size particles at 300 ft altitude with respect to the number found just below and above that level.

While the average particle count at a given altitude or during a given pass is valuable, it is also useful to be aware of the variation of such a count with time during a pass. The large variation during this sampling was mentioned previously with reference to Figure 8, which shows how the LWC and mean particle diameters varied during the entire mission. A further indication of the temporal change in particle populations that occurred during particular passes is shown in the Figure 11 plots. For each of the eight passes, one graph was prepared that shows the numerical change with time of four specific particle sizes. The lines on these plots connect consecutive 20-sec (1.5 km) averages of particle population.

In general, the least change with time occurred with the smallest particles, and the more radical changes occurred with the larger ones. There was also more spacial variation at the lower levels than the higher ones. This can easily be seen by comparing the $4 \mu m$ curve at the various levels.

Pass No. 1 to the north and Pass No. 6 to the south were both made at 100 ft altitude. Their origins were 5 miles apart, but their ending points were separated by about 45 miles. The plots of their particle populations as a function of time are given as Figures 11a and b to facilitate comparison. In the absence of any visible meteorological differences during the sampling, the differences between the 11a and b figures were not anticipated. Figure 11a shows a broad, rather gradual increase, then a decrease in particle counts, while Figure 11b indicates more rapid changes both up and down.

Pass No. 2 to the south, shown in Figure 11c, was made within a few miles of where Pass No. 1 (in Figure 11a) was made. It indicates the same gradual change in particle population as was found at 100 ft in that area.

At 300, 500, 750, and 1000 ft (Figures 11d, f, g, and h), where total particle counts are considerably less than at the other sampled levels, there is relatively little change in the number of $4-\mu m$ -sized particles with time. The number of larger particles at these levels often diminished to zero.

When particle population averages from Table 2 are plotted as horizontal lines on the Figure 11 diagrams, they may at first appear unexpectedly high. This, however, is proper, and is a result of plotting arithmetic averages on logarithmic axes. An example in Figure 11a depicts the 10 μ m particle average for the 8-min pass as a horizontal line above much of the plotted 10 μ m data.

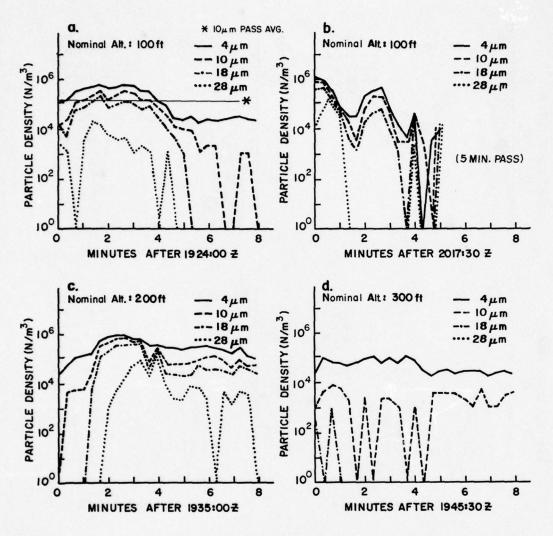


Figure 11. Variation With Time of Concentration of Four Particle Sizes During Sampling Passes at Altitudes Indicated. Based on consecutive 20 sec data averages. Horizontal line in a. represents 10 μm pass average from Table 2

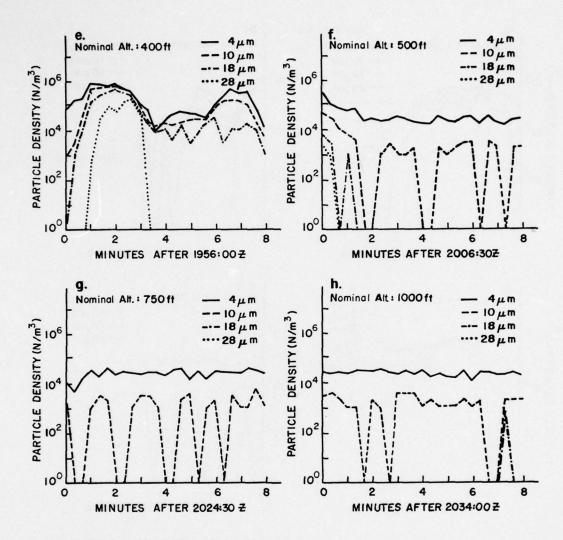


Figure 11. Variation With Time of Concentration of Four Particle Sizes During Sampling Passes at Altitudes Indicated. Based on consecutive 20 sec data averages. Horizontal line in a. represents 10 μm pass average from Table 2 (Cont.)

Summarized data averages listing particle concentrations as a function of particle size for each of the eight sampling passes are given in Appendix A. These are the original data from which the curves in Figure 9 were made, and are the values upon which Table 2 and Figures 10 and 11 were developed.

6. CONCLUDING REMARKS

The rather large variations of liquid water content and particle diameters during the several passes at low levels were not anticipated. These variations occurred in clear air while the aircraft was flying a constant heading and a constant altitude. However, both Viezee and Oblanas and Noonkester et al, who made lidar observations of the boundary layer also found significant changes with time as low layers of particles and aerosols were advected past their observation point. On at least two occasions during clear sky conditions, Noonkester et al at San Diege detected wavelike structures resembling Kelvin-Helmholtz breaking waves. These were seen on an FM-CW radar and on a lidar, both of which were pointed vertically. The tops of echoes during most clear sky days were usually from 200 to 700 m above sea level.

The variations of particle number and size that our low level aircraft data display appear to be similar to those recorded by Viezee and Oblanas and Nookester et al at a given location. The speed of the aircraft has, however, considerably compressed the time over which atmospheric variations can be observed. As a result the aircraft can pass quickly from a particle-rich area to one where very few particles are recorded. It can also rapidly record areal changes in particle median diameters, as was done, for example, during the first pass at 100 ft altitude when the diameters changed from approximately 20 μ m to 5μ m.

Another unexpected aspect of this mission was the finding of a layer at 300 ft altitude where the mean particle size and number were considerably less than at levels just 100 ft higher and lower. As previously indicated, this relatively particle-deficient zone seemed to be the visually light area that was seen by crew members (and is indistinctly shown in Figure 7) as existing between the horizon and a slightly dark layer just above it. It was impossible for the crew to estimate the altitude of either the light layer or the dark layer above it. The mean

Viezee, W., and Oblanas, J. (1969) Lidar-observed haze layers associated with thermal structure in the lower atmosphere, <u>Jour. Appl. Meteor.</u>, 8:369-375.

^{24.} Noonkester, V.R., Jensen, D.R., and Richter, J.H. (1974) Concurrent FM-CW radar and lidar observations of the boundary layer, <u>Jour. Appl. Meteor.</u>, 13:249-256.

temperature of the 300 ft level was 11.4°C, as measured by the aircraft. This was one-tenth degree cooler than at 200 and 400 ft, but it is not known whether this is significant with respect to the height variations of particle concentrations.

The variations of particle number and size recorded during this mission may be the result of the particular synoptic situation occurring 10 July. Hopefully, more research sampling flights may be made soon in the same maritime environment to confirm the particle spectra types presented here or to provide a basis for more representative ones.

Printouts of particle data averaged over consecutive 20-sec intervals during the sampling are given in Appendix B. The form and format of these data are the same as those presented in Appendix A, but the data are averaged over shorter periods.

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Appendix A

Average Particle Distributions for Eight Passes

Summarized data averages of particle concentration vs particle size are given in the following pages for each of the eight sampling passes made on 10 July 1978. Each pass was 8 min in duration, except No. 6 which was 5 min. The liquid water content (LWC) values at the bottom of each printout are in g m⁻³, and are calculated assuming the particles have a density of 1 g cm⁻³. The diameter (MED D) values are in micrometers (μ m).

AFWL MARINE LAYER STUDY BY AFGL
Nominal Alt = 100 ft
FLIGHT E78-23 ON 10 JUL 78 480 SECOND AVERAGING
INTERVAL START: *19:24:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M*+3-MM)
TYPE: RAIN PASS #1

	PRECIP	SIZE	CLOUD	SIZE	SCATTER	SIZE
P (MB)	PROBE	(MU)	PROBE	(MU)	PROBE	(MU)
1018.3						
	0.	404	0.	23	8.60E+07	2
ALT (KM)	0.	647	9.24E+02	43	1.16E+08	4
.033	0.	944	0.	62	8.73E+07	6
	0.	1241	0.	82	6.62E+07	8
TEMP (C)	0.	1538	0.	102	5.13E+07	10
11.4	0.	1835	0.	122	3.95E+07	12
	0.	2132	0.	142	2.74E+07	14
DEWPOINT	0.	2429	0.	161	2.26E+07	16
.0	0.	2726	0.	181	2.45E+07	18
	0.	3023	0.	201	1.73E+07	20
TAS (M/S)	0.	3320	0.	221	1.55E+07	22
78.5	0.	3617	0.	2 41	1.08E+07	24
	0.	3914	0.	260	6.65E+06	26
	0.	4211	0.	280	1.31E+06	28
	0.	4508	0.	300	1.21E+05	30
TOTALS		-				
7.72E-07	0.		7.72E-07		1.17E-03	LWC
43	0		43		19	MED D

INTERVAL START: 1935:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

Alt = 200 ft	Nominal	TYPE: RAIN			PASS #2		
	PRECIP	SIZE	CLOUD	SIZE	SCATTER	SIZE	
P (MB) 1015.3	PROBE	(MU)	PROBE	(MU)	PROBE	(MU)	
A ALEXANDER & ALEXANDER	0.	404	0.	23	1.18E+08	2	
ALT (KM)	0.	647	9.30E+02	43	1.81E+08	4	
.058	0.	944	4.31E+02	62	1.54E+08	6	
	0.	1241	0.	82	1.22E+08	8	
TEMP (C)	0.	1536	1.77E+02	102	9.76E+07	10	
11.5	0.	1835	0.	122	7.64E+07	12	
	0.	2132	0.	142	5.77E+07	14	
DEWPOINT	0.	2429	0.	161	5.01E+07	16	
.0	0.	2726	0.	131	5.70E+07	18	
	0.	3023	0.	201	4.62E+07	20	
TAS (M/S)	0.	3320	0.	221	4.11E+07	22	
78.3	J.	3617	0.	241	3.30E+07	24	
	0.	3914	0.	260	2.58E+07	25	
	0.	4211	0.	280	8.51E+06	28	
TOTALS	0.	4508	0.	300	9.75E+04	30	
3.87E-06	0.		3.87E-06 93		3.14E-03 21	LWC MED D	

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT EF8-23 ON 10 JUL 78 480 SECOND AVERAGING INTERVAL START: 19:45:30* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*)

	PARTICLE	CIZE D	ISTRIBUTIONS	(NUMBE	(/M++3-M4)	
PASS #	3		TYPE: RAIN		Nomina	1 Alt = 300 ft
SIZE	SCATTER	SIZE	CLOUD	SIZE	PRECIP	
(MU)	PROBE	(MU)	PROBE	(NU)	PROBE	P (MB)
						1011.9
2	1.83E+07	23	3.53E+03	40 4	0.	
4	2.97E+07	43	0.	647	0.	ALT (KM)
5	1.00E+07	6?	0.	944	0.	.086
8	3.36E+06	82	0.	1241	0.	
8	1.38E+06	102	0.	1538	0.	TEMP (C)
12	3.87E+05	122	0.	1835	0.	11.4
14	2.93E+05	142	0.	2132	0.	
15	1.69E+05	161	0.	2429	0.	DEWPOINT
18	9.73E+04	181	0.	2726	0.	.0
20	7.26E+04	201	0.	3023	0.	
22	7.24E+04	221	0.	3320	0.	TAS (M/S)
24	4.87E+04	2 41	0.	3617	0.	78.3
26	2.43E+04	260	0.	3914	0.	
25	0.	280	0.	4211	0.	
30	0.	300	0.	450 8	0.	
						TOTALS
LHC	1.44E-05		4.68E-07		ũ.	4.68E-07
MED D	9		23		0	23

INTERVAL START: 19:56:00* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #4	4]		TYPE: RAIN		Nomina	1 Alt = 400 ft
SIZE (MU)	SCATTER PROBE	SIZE (MU)	CL OUD PROBE	SIZE	PRECIP PROBE	P (MB)
2	7.95E+07	23	0.	404	0.	
4	1.39E+08	43	9.30E+02	647	0.	ALT (KM)
6	1.25E+08	62	4.35E+02	944	0.	.114
	1.09E+08	82	0.	1241	0.	
10	9.06E+07	102	0.	1538	0.	TEMP (C)
12	7.72E+07	122	0.	1835	0.	11.5
14	5.64E+07	1 42	0.	2132	0.	
16	4.99E+07	161	0.	2429	0.	DE WPOINT
18	5.75E+07	131	0.	2726	0.	.0
20	4.78E+07	201	0.	3023	0.	
22	4.38E+07	221	0.	3320	0.	TAS (M/S)
24	3.78E+07	241	0.	3617	0.	77.9
26	3.40=+07	260	0.	3914	0.	
28	1.44E+07	280	0.	4211	0.	
30	4.92E+04	309	0.	4508	0.	
						TOTALS
LHC	3.51E-03		1.91E-06		0.	1.915-06
MED D	22	5 4 70 FO WEST AT THE PARTY.	56		0	56

AFML MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 480 SECOND AVERAGING INTERVAL START: 20:06:30* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

			TYPE OATH	ים הייטוו	K, W 2-44)	
PASS #			TYPE: RAIN		Nomina	1 Alt = 500 ft
SIZE	SCATTER	SIZE	CLOUD	SIZE	PRECIP	
(MU)	PROBE	(MU)	PROBE	(MU)	PROBE	P (MB)
300000						1005.1
2	2.23E+07	23	0.	404	0.	
4	3.07E+07	43	0.	547	0.	ALT (KM)
6	1 . 66E+07	62	0.	944	0.	.143
8	8.75E+06	82	0.	1241	0.	
10	4.27E+06	102	0.	1538	0.	TEMP (C)
12	2.78E+06	122	0.	1835	0.	11.1
14	1.18E+06	142	0.	2132	0.	
16	8 . 925 +05	1 61	0.	2429	0.	DEMPOINT
18	5.06E+05	181	0.	2726	0.	.0
20	3.14E+05	201	0.	3023	0.	
22	3.16E+05	221	0.	3320	0.	TAS (M/S)
24	2.93E+05	241	0.	3617	0.	78.3
26	1.44E+05	260	0.	3914	0.	
28	1.46E+05	289	0.	4211	0.	
30	2.44E+04	303	0.	4508	0.	
						TOTALS
LMC	5.02E-05		0.		0.	0.
MED D	14		0		0	0

	INT	ERVAL STARTS	a 1171 30*	300	Sec	Average
PARTICLE	SIZE	DISTRIBUTIONS	117130*	4)		

Alt = 100 ft	Nominal	-	YPE RAIN			PASS #6
	PRECIP	SIZE	CLOUD	SIZE	SCATTER	SIZE
P (MB)	PROBE	(MU)	PROBE	(HU)	PROSE	(MU)
1019.2						
	0.	404	0.	23	7.75E+07	2
ALT (KM)	0.	647	0.	43	1.59E+08	4
.026	0.	944	0.	62	1.49E+08	6
	0.	1241	0.	82	1.33E+08	8
TEMP (C)	0.	1538	0.	102	1.03E+08	10
11.9	0.	1835	0.	122	8.13E+07	12
	0.	2132	0.	142	5 . 84E+07	14
DEWPOINT	0.	2429	0.	161	5.16E+47	16
.0	0.	2726	0.	181	6.05E+07	18
	0.	3023	0.	201	4.60E+07	20
TAS (M/S)	0.	3320	0.	221	4.33E+07	22
77.6	0.	3617	0.	241	3.86E+07	24
	0.	3914	0.	260	4.17E+07	25
	0.	4211	0.	280	1 . 68E+07	28
	0.	4508	0.	300	1.17E+05	30
TOTAL						
0.	0.		0.		3.78E-03	LHC
	0		0		22	MED D

AFHL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 480 SECOND AVERAGING INTERVAL START: * 20:24:30* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #	71		TYPE: RAIN		- Nomina	1 Alt = 750 ft
SIZE	SCATTER	SIZE	CL OUD	SIZE	PRECIP	
(HU)	PR03E	(MU)	PROBE	(MU)	PROBE	P (MB)
2	4.09E+06	23	0.	404	0.	
4	1.28E+07	43	0.	647	0.	ALT (KM)
6	6.69E+06	62	0.	944	0.	.224
8	1.96E+05	32	û.	1241	0.	
10	8 . 10E+05	102	0.	1538	0.	TEMP (C)
12	3.41E+05	122	0.	1835	0.	10.5
14	1.96E+05	142	0.	2132	0.	
16	9.82E+04	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.8
25	0.	260	0.	3914	0.	
28	0.	280	0.	4211	. 0.	
30	0.	300	0.	4508	0.	TOTALS
LWS D	6.59E-06 8		0.		0. 0	0.

INTERVAL START: 20:34:00* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #			TYPE: RAIN	- INUMBE		1 Alt = 1000 ft
SIZE	SCATTER	SIZE	CLOUD	SIZE	PRECIP	
(MU)	PROBE	(MU)	PROBE	(MU)	PROBE	P (MB) 985.5
2	4.15E+06	23	0.	404	0.	
4	1.37E+07	43	9.52E+02	647	0.	ALT (KM)
6	6.38E+06	62	0.	944	0.	.308
8	2.35E+66	82	0.	1241	0.	
10	9.45E+05	102	0.	1538	0.	TEMP (C)
12	4.47E+05	122	0.	1835	0.	10.0
14	2.50E+05	142	0.	2132	0.	
16	2.47E+04	161	0.	2429	0.	DEMPOINT
18	2.50E+04	181	0.	2726	0.	• 0
20	2.53E+04	201	0.	3023	0.	
22	2.55E+04	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	TOTALS
LWS	7.65E-06		7.95E-07		0.	7.95E-07
MED D	8		43		0	43

Appendix B

Average Particle Distributions for 20-Second Periods

Data on the following printouts are averaged over consecutive 20-sec periods for the duration of each of the eight sampling passes made off the California coast on 10 July 1978. At the 150 kt sampling speed of the aircraft, each of the 20-sec averages consists of data acquired over a distance of approximately five-sixths of a nautical mile (.96 s mi/1.5 km).

The pass number that the printouts apply to is indicated at the top of each page. The ending of each pass is also indicated at the bottom of the appropriate data listing. In some cases one, two, or three data listings subsequent to that for the end of the pass are included.

THE PROPERTY THE							-						The second secon	
SANTER STR CLOUD STEP PROTE 1116.2 SANTER STR CLOUD STEP PROTE 1116.2 SANTER STATE CLOUD STEP PROTE 1116.3 SANTER STATE STA			INTER	10 JUL 78	20 5	EC OND A VERA	GING		FLIGHT E78	INTER	VAL STARTIS	20 5	ECOND AVER	CING
Note	1	PARTICLE	STZE D	ISTRIBUTIONS TYPE: RAIN	(NUMBE	Z Hee3 - 141)			PARTICLE	SIZE 0	ISTRIBUTIONS TYPE: RAIN	CNUMBE	SV Hee3-IM)	
The color The	32	SCATTER	SIZE	00000	SIZE	PRECIP		SI ZE	SCATTER	SIZE	CLOUD	SIZE	PRECIP	
178566 182 18 18 18 18 18 18 1	5	PROBE	CHUS	PROBE	(MI)	PROBE	p (46)	(0.40)	PROBE	CHO	PROBE	(HA)	PRJBE	1819
13.00 1.	-	3. (7F+87)	23		707	-		-2	8.15E+07	23	9.	707	0.	
1.156E-16 122 1.24 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		2.756+07	£4		647			,	7.68E+07	£4		249	0.	ALT CKM
6.565666 6 82 0. 1524 0. 100 1. 10 1	9	1.38E+07	29	.0	116		. 650	•	4.79E+07	62	0.	776	0.	. 025
5.55E-06 122 0. 123 0. 154 0. 12 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	•	6.56E+16	82		1541			0	2.60E+07	82		1241		-
1.0 1.0	2	5.36E+06	102	. 0 .	1538		TENP (C)	25	1.25E+07	201	:.	1538		TENP
1.74 1.75	15	3.61E+06	122	.00	1835		110.7	27	TOURTHE	166		1035	• •	-
178 18 18 18 18 18 18 18	*	1.192+06	747	: -	2429	: -	DEMPOTAT	116	2.36E+06	161		2629		DEMPOT
SCATTER SIZE CLOUD SIZE PEGITE		1 785.46			2726	0		18	2.36E+86	181	0.	2726	.0	
SCATTER SIZE OLIVE STATE OLIVE STATE OLIVE STATE STATE OLIVE STATE STATE OLIVE STATE STATE OLIVE STATE STA	200	6.02E+05	201	::	3023			20	2.95E+06	201		3023		
SCATTER SIZE CLOUD STEP	22	5.87E+05	221	.0	3320	.0	-	22	3.53E+06	122	9.	3320	0.	TAS CHIS
5. 875-65 5 500 0. 4214 0. 500 0. 6. 7795-95 260 0. 4214 0. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	54		241	:	3617		76.8	54	5.88E+05	241	•	3617	•	77.3
Color Colo	56	5.87E+05	260		3914			92	9.	260	•	3914	.0	
FARTICLE SIZE DISTRIBUTIONS (NUMBERWW#3-FM) FARTICLE SIZE DISTRIBUTIONS (NUMBERW##9-FM) FARTICLE SIZE CLOUD SIZE PRESIP FARTICLE SIZE CLOUD SIZE CLOUD SIZE PRESIP FARTICLE SIZE CLOUD SIZE PRESIPE FARTICLE	28		280		4211		-	97	5.79E+05	280		4211		-
SCATTER SIZE CLOUD SIZE PRECIP Majorate STATE	30		300	.0	4508	:	20101	30	••	300	:	4508	.,	
SCATTER SIZE CLOUD SIZE PRECIP PARTICLE SIZE DISTRIBUTIONS (NUMBER/NEWS-HH) PARTICLE SIZE DISTRIBUTIONS (NUMBER/NEWS-HH) PROBE (NU) P		2 4.35 .05					O INTERPO	LWC	1.885-04		. 0	-		
Thereval Start = 19 124400	00			;		• ;			18		•		•	:
SCATTER SIZE CLOUD SIZE PRECIP (MU) PROBE (M					-		-					1		-
SCATTER SIZE CLOUD SIZE PRECIP (MU) PROBE (M			INTER	VAL START 8-19	124100			-	BEATTE		VAL SIAKIT	091921 6		
SCATTER SIZE CLOUD SIZE PRECIP (MU) PROBE (M		PARTICLE	SIZE	TYPE: RAIN	CNUMBE	K Hees-mil			PARITOLE		TYPE! RAIN	CNOMBE	(M-5-44)	
PROBE (MU) PROBE MU PROBE MU PROBE MU PROBE MU PROBE MU PROBE MU PROBE	32	SCATTER	SIZE	CL OUD	SIZE	PRECIP		STZE	SCATTER	SI ZE	CLOUD	SIZE	PRESIP	
5.90E+07 23 0. 404 0. ALT (KM) 4 1.7E+08 23 0. 22E+04 647 0. ALT (KM) 5.0E+07 62 1.7E+08 43 2.2E+04 647 0. ALT (KM) 6 1.7E+08 63 2.2E+04 647 0. ALT (KM) 6 1.7E+08 63 0. 1244 0. BL (M) 6 1.7E+08 62 0. 1244 0. BL (M) 6 1.7E+08 62 0. BL (M) 6 1.2E+07 102 0. 1244 0. BL (M) 6 1.2E+07 102 0. BL (M) 6 1.2E+07 102 0. BL (M) 6 1.2E+08 142 0. BL (M) 6 1.2E+07 102 0. BL (M) 6 1.2E+08 142 0. BL (M)	3	PROBE	CHIL	PRCBE	(MC)	PROBE	(MB)	(5)	PROBE	(DW)	PROBE	(NA)	PROBE	4
5.6E+07 43 0. 647 0	•	E 035407	24		707	.0		2	1.45€+08	23		707	0.	101
3.99E+07 62 0. 1244 0. 026 6 1.44E+08 62 0. 944 0. 2.06E+07 102 0. 1241 0. 1241 0. 1538 0. 1241 0. 1538 0. 1241 0. 1538 0. 1241 0. 1538 0. 1242 0. 1538 0. 1243 0. 1243 0. 1538 0. 1243 0. 1244 0. 124	t u	6.065+07	2 2		647		ALT (KM)	1	1.71E+08	43	2. 22E+04	647		ALT CO
2.01E.07 82 0. 1241 0. 1540 0. 1EMP (G) 10 6.60EF407 82 0. 1541 0. 1570 0. 153	9	3.89E+07	62	0.	776	.0	920 .	9	1.14E+88	62	. 0	446	.0	. 028
4.75E46 122 0. 1536 0. TEMP (G) 12 5.85E407 122 0. 1538 0. 1538 0. 155	0		82		1241	•		•	6.60E+07	82		1541		
4,70E+06 122 0. 1835 0. 11.8 14.9 12. 0. 1235 0. 13.6 14.2 0. 1235 0. 13.6 14.2 0. 1835 0. 13.6 14.2 0. 1835 0. 13.6 14.2 0. 1835 0. 1	10		102		1538		TEMP (C)	10	5.89E+07	102		1538		TENP
4,72E+06 161 0 2429 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	15	1	122		1835		11.8	71	4.95E+U/	771		1835		1.
9.55E+06 181 0. 2726 0. TAS (4/S) 22 1.8EE+07 221 0. 3323 0. TAS (4/S) 22 1.8EE+07 221 0. 3321	t .		164	• •	2429		DE MP OT NT	16	2-69E+07	161	•	5429		DEMPOT
1.76E+06 201 0. 3023 C. TAS (4/S) 22 1.01E+07 201 0. 3023 0. TAS (4/S) 22 1.01E+06 201 0. 3023 0. TAS (4/S) 22 1.01E+07 241 0. 3320 0. TAS (4/S) 24 10. 3617 0. 3517 0	9 6		181		2726		9.	18	2.74E+07	181	.0	2726	0.	
4.11E+06 221 0. 3320 0. TAS (4/S) 22 1.38E+07 221 0. 3320 0. TAS (4/S) 25 1.38E+07 241 0. 3517 0. 5.22E+05 260 0. 3914 0. 3517 0. 3517 0. 3914	20		201		3023	0.		20	1.816+07	201	.0	3023		
5 92E+05 241 0. 3617 0. 77.6 24 1.34E+07 241 0. 3914 0. 3914 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 310 0. 4211 0. 4211 0. 310 0. 4211 0.	22		221	0.	3320		-	.55	1.81E+07	221		3350	.0	-
5.88E06 260 0. 3914 0. 28 0.3E10 0. 4211 0. 4211 0. 4211 0. 4211 0. 4211 0. 4508 0. 45	54		241	•	3617		77.6	42	1.34E+07	241	•	3617	•	78.3
1.1/E+05 200 0. 4508 0. TOTALS LAG 1.32E-03 1.85E-05 0.	56		260		3914			200	8.735.486	200	•	3914	•	
3.36E-04 0. 0. 0. 0. 0. 1.32E-03 1.85E-05 0.	28		200	•	1124	•		30		300		4508	• • •	
3.36-04 0. 1.38-05 0. 1.38-05 0.	200		3			:	TOTALS							TOTALS
				.0					1.32E-03		1.85E-05		0.	1.85

	GING	P (MB)		ALT (KH)	. 035	TEND (C)	יבשו לכן	11.5	DEMPOTINT	0.		TAS (N/S)	78.9			TOTALS		•		a d	1018.3	ALT COM	220	•	TENP (C)	11.6		DEMPOINT	•	196 (4/61	78.5	of the section of the section		TOTAL	0.
FGL	20 SEZOND AVERAGING 15440* IUMBER/ M**3-NM)	PRECIP PROBE	.0			•	•			0.0		0.0	:			;	.0	6	He#3-H)	PRECIP		•						•				0.			0.
1007 87 4	20 SE3 9125140* (NUMBER/	SI ZE (MU)	101	249	946	1241	1558	2132	5459	2726	3023	3320	3617	3914	1174	0000			9126100* (NUMBER/	SIZE		+0+	110	1241	1538	1835	2132	5459	2726	3023	3617	3914	4211	4508	
AFUL MARINE LAVER STUDY BY AFGL	IGHT E78-23 ON 10 JUL 78 20 SESOND AVER Interval State 19125160* Particle Size Distributions (Number/ M**3-M)	CL OUD PROBE		• 0	•	•	•			0.	.0	.0			•	;	0.		INTERVAL START:*19126:00* PARTICLE SIZE DISKRIEULUS (NUMBER/M**3-M) TYPE: RAIN	CLOUD		•		•	0.	.0	0.	•	•	•	•				0.
AFML MAR	INTERV SIZE DI	SI ZE	23	43	62	85	102	142	161	181	201	221	241	260	087	200			SIZE DI	SIZE		2 27	2 5	82	1.62	122	145	161	181	224	241	260	280	3 00	
	FLIGHT E78-23 ON INTERVENCE SIZE DI	SCATTER	1.80E+08	3.07E+0 €	2.54E+08	2.28E+08	1.88E+U8	1.17E+08	1.06E+08	1.21E+08	9.17E+07	6.91E+07	6.68E+07	3.77E+07	8.13E+Ub	1.17.6406	5.74E-03	50	PARTICLE	SCATTER		2 355 400	7 7 7 7 7 8	9.865407	6.96E+07	5.08E+07	3.27E+07	2.22E+07	3.80E+07	2. 34E+07	2.86F+07	1.64E+07	2.91E+06		1.956-03
		SI ZE	8	,	9		10	14	16	18	20	22	54	26	97	200	LHC	0 0 EM		ST ZE		V -	• •	0 «	10	12	14	16	18	200	24	26	28	30	LWC
	- INC	P (HB)		ALT (KM)	. 036	100	TEMP (C)	11.7	DEMONTAL	L L L L L L L L L L L L L L L L L L L	:	TAS (M/S)	78.1			TOTALS	0.	0			1019.1		ALI (Km)	939.	TEND (C)	11.6		DEMPOINT	•		TAS (H/S)	000			TOTALS 0.
										2		=																-		1					
4 FGL	COND AVERAG	PRESIP PR38E	.0		0.		• 0	•		•		11.		0.			0.	•	V N**3-191)	PRESIP	- Kone	•••		•••	•			.0				•	•	::	9.
TUDY BY 4FGL	20 SECOND AVERAG 9125110* (NUMBER/H**3-MM)	SIZE PRESIP (MU) PROBE	.0	647 0.	944 0.	1241 0.	1538 0.	1835 0.	•	•	3024	0.		3914 0.	4211 0.	.0 8064	0.	•	19125120* : (NUMBER/ W##3-M1)	SIZE PRESIP		*00 +0+	.0	.0 446	1541					••				4508 0.	
ZINE LAYER STUDY BY 4FGL	10 JUL 78 20 SECOND AVERAGAL START# 19125110* ISTRIEUTIONS (NUMBER/M**3-MM)	۵	.0	0. 647 0.	.0 446 .0	0. 1241 0.	0. 1538 0.	1835 0.	•	•	3023	3320 0.	3617 0.	0. 3914 0.	4211 0.	.0 8064 .0	0.	0	VAL START# 19#25#20# ISREDITONS (NUNBER/W##3-M4)	SIZE		.0 +0+ 0.	0. 044		1541 0.		2132			3023 0.	•			4508 0.	.0
AFML MARINE LAYER STUDY BY AFGL	-23 ON 16 JUL 78 20 SECOND AVERAGING INFRVAL START* 19125120* SIZE DITRIBULIONS (NUMBER/M**3-M*) TYPE: RAIN	SIZE P	.0 404		.0	•		122 0. 1835 0.	21.36 0.	2726	•	3320 0.	0. 3617 0.	.0		300 0. 4508 0.	0.		INTER SIZE 0	SIZE	PKUBE COL	•	• 0			1835	6. 2132		0. 2726	3023 0.	3320 0.	3617	3914	300 0. 4508 0.	• 0
AFML MARINE LAYER STUDY BY AFGL	FLIGHT E78-23 ON 16 JUL 78 20 SECOND AVERAGE INFERANT STAFF 19:25:120* OARTICLE SIZE DISTRIBUTIONS (NUMBER/M***-M) TYPE: RAIN	CLCUT SIZE P	.0 404	43 0.	62 6.	82 C.	102 0.	122 0.	142 0. 2136 0.	2726	261 0	221 0. 3320 0.	241 0. 3617 0.	260 0.			1.745-03		INTERVAL STAFT # 19125120* PARTICLE SIZE DISTREUTIONS (NUMBER/W##3-M)	SIZE CLOUD SIZE	CPU PROBE	23 0.	43 0.	62 0.	•	122 0. 1835	142 6. 2132	161 6. 2429 6.	181 0. 2726	201 0. 3023 0.	221 0. 3320 0.	241 0. 3617	3914	300 00	3.586-03

1	AGTNG P (HB) 1016.1 ALT (KH) TEMP (C) 11.5 TOTALS P (HR) TOTALS TOTAL	AGTNG P (HB) 1016.1 ALT (KH) TEMP (C) 11.5 TOTALS P (HR) TOTALS TOTAL	TYPE: RAIT NOT STORE PRESTRY OF THE STATE PRESTRY O	P (HB) 1016.1 1016.1 ALT (KH) 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.6 11
7.72	AGTNG P (HB) 1016.1 ALT (KH) TEMP (C) 11.5 TEMP (C) 11.5 TOTALS P (HR) P (HR) P (HR) P (HR) TOTALS P (HR) TOTALS TOTAL	AGTNG P (HB) 1016.1 ALT (KH) TEMP (C) 11.5 TEMP (C) 11.5 TOTALS P (HR) P (HR) P (HR) P (HR) TOTALS P (HR) TOTALS TOTAL	TYPE: RAIT NUMBER/N**3-NY) TYPE: RAIT NUMBER/NM**3-NY) TYPE: RAIT NUMBER/NM**3-	FLIGHT ETB-23 NOW 10 JULY 79 20 SECONO AVERAGING PARTICLE SIZE OISTRIBUTIONS (NUMBER/N*83-M) PROBE 1.96E-08 2.49E-08 1.96E-08 1.96E-07 1.96E-08 1.96E-08 1.96E-08 1.96E-07 1.96E-08 1.96E-08 1.96E-07 1.96E-08 1.96E-08 1.96E-08 1.96E-07 1.96E-08 1.96E-07 1.96E-08 1.96E-07 1.96E-08 1.96E-08 1.96E-07 1.96E-08 1.96E-08 1.96E-07 1.96E-08 1.96
	TEM ALT TEM OEWP P 1 1 1 1 ALT TEM 1 1 ALT TEM 1 1 ALT TEM 1 1 ALT TEM 1	TEM ALT TEM OEWP P 1 1 1 1 ALT TEM 1 1 ALT TEM 1 1 ALT TEM 1 1 ALT TEM 1	10 JUL 78 20 SE5 OND AVERAGING 15 TYPE: RAIN (1046 ER/N**3-N*) TYPE: RAIN (1046 ER/N**3-N*) TYPE: RAIN (1046 ER/N**3-N*) 17 FE PROBE (MU) PROBE 1 15 34 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	FLIGHT E78-23 ON 10 JUL78

IG TNG	Year or many control		1017.9		ALT (KM)	. 036	TEND IN	11.3		DEMPOINT	0.	100 100	78.7			The Prince of the Land Street was	TOTALS					P (MB)		ALT (KM)	. 039		TENP (C)	111.5	DEMP OT NT	0.		TAS CH/S)	7.87			TOTALS
20 SECOND AVERAGING	. Hee3-MI	PRESIP	PROBE	.0	.0	•			0.							0.			1887-841		PRESIP	PRJBE	.0				•	0.0	.0			•				
20 SE	(NUMBER	SIZE	0	707	249	116	1538	1835	2132	5459	2726	3023	3617	3914	4211	4508			12814 D*		SIZE	SE .	+0+	249	116	1241	1930	2132	5459	2726	3023	3350	3016	4211	4508	
3 ON 10 JUL 78 20 SE	SIZE DISTRIBUTIONS (NUMBER M**3-M) TYPE: RAIN	Cr ono	PRUBE	0.	.0	•			.0		•				.0	0.			INTERVAL STARTIF 19 128 14 0*	TYPE: RAIN	00010	PRCBE	.0						. 0						.0	
-23 ON INTERV		SIZE	504	23	43	8 2	102	122	145	161	181	221	241	260	280	300	** ** *		INTERVI	-	SIZE	() HO	23	43	29	200+	122	145	161	181	201	241	260	280	300	
FLIGHT E78-23 ON INTERV	PARTICLE	SCATTER	300 2	3.61E+07	4.66E+07	3.50E+07	1.92E+07	8.17E+06	5.25E+06	4.68E+06	5.83E+06	4-565+06	3.496+06	1.75E+06	5.85E+05	.0	7.18F-04	20	PARTICLE		SCATTER	PROBE	2.09E+07	1.40E+07	5.98E+U5	6. 30F+06	4.645+86	5.78E+06	1.15E+06	2.33E+06	2.31E+Ub	5.88F+05	5.95E+115	0.		
		SI ZE	0.1	2		£0 €0	10	15	14	16	18	22	24	92	28	30	37	4E0 0			ST ZE	6	2	.	۰ ۵	•	12	1,4	16	18	22	24.	52	28	30	
ING			1018.3		ALT (KH)	. 033	TEMP (C)	11.4		DEMPOINT	0.	TAS (W/S)	78.5				I TOTALS	;				1018.2		ALT (KH)	. 834	TEND (C)	4.1.4		DEMPOINT	•	13/ 17/ 3/1					TOTALS
20 SECOND AVERAGING	(M-5+4H/	PRESTP	14336	.0	:	•			•	•	•	• •					0	•	(4443-141)		PRESIP	PROBE	.9	•••	•			0.0	0.	•	•				.0	
20 SE	CNUMBER	SIZE	(Ou)	404	249	1241	1538	1835	2132	5459	2726	3320	3617	3914	4211	4508			128 100*		SIZE	0	101	249	***	1538	1835	2132	5459	27.26	3063	3617	3914	4211	4508	
3 ON 10 JUL 78 20 SE	SIZE DISTRIEUTIONS (NUMBER/M**3-MY TYPE: RAIN	CLOUD	3004			•••	0.	.0		•	•		0.	.,					INTERVAL START # 19128 100* SIZE DISTRIBUTIONS (NUMBER/ #**3-144)	TYPE: RAIN	כר כחם	PROBE	9.	•	• •		0.	0.		•	•		0.0			
-23 ON INTER	\$12E 01	SIZE		23	43	82	102	122	145	161	181	221	241	260	280	300			INTERV SIZE DI	-	SI ZE	0.0	23	2	20	102	122	145	161	181	221	241	260	280	300	
1		2	,	+08	E+08	1.03E+08	8.05E+07	6.59E+07	4.67E+07	3.09E+07	4.55E+U7	2.97E+07	1.17E+07	4.08E+06	5.87E+05	5.85E+05	1.72E-03	19	PARTICLE		SCATTER	14.095	5.65E+G7	7.65.07	5.47E407	3.786+07	2.74E+07	1.23E+07	2,28E+07	1.69E+07	1-115+07	6.45E+06	3.51E+06			
FLIGHT E78	PARTICLE	SCATTER		1.23E+08	1.65E+08	1.03	8.05	6.5	4.6	3.0	4.0	2.0	1:	;	5	5	-				Sc	1	'n	:,		M	2		å.	: -	: -	9	3.	:		

ING	P (#B)	1018.2	ALT (KH)	. 034	TEMP (C)	11.4	DEMPOTINT	•	TAS (4/S)	77.9			TOTALS	;		GHB) 4	1018.1		ALI (KH)		TENP (C)	11.2	DEMPOTAT	9.		TAS (H/S)	78.2		TOTALS	LOIALS
20 SECOND AVERAGING 9140* UMBER/ N**3-M)	PRESIP			•••								.0		;	/Her3-HI)	PRESIP				.0							•	::		
20 SE 129140*	SIZE	707	647	116	1538	1835	2429	2726	3320	3617	3914	4508			1136100* (NUMBER	SIZE		101	110	1241	1538	1835	2429	2726	3023	3320	3617	4211	4508	
IGHT E78-23 ON 10 JUL 78 20 SEDOND AVER INTERAL STARTIF1912940* PARTICLE SIZE DISTRIBUTIONS (NUMBER M**3-M*) TYPE: RAIN	CL OUC PR 08E			•		•	• •			•			•		INTERVAL STARTI*1913G100* SIZE DISTRIEUTIONS (NUMBER/M**3-MM) TYPE: RAIN	CLGUD				.0		•	•		0.		•			
INTER	ST ZE	2.6	43.5	62	102	122	142	181	201	241	280	300			SIZE DI	SIZE		53	62	82	102	122	161	181	261	221	261	286	300	
FLIGHT E78-23	SCATTER	2.955405	9.396+06	6.45E+06	5.97E+05	5.92E+05	5.905+65				• •	0.	36-300 0	8	PARTICLE	SCATTER		5.85E+05	1.23E+U/ 5.86E+36	1.18E+06	1.17E+06	•	5.89F+05	6.	.0	.0	•	: :	9.	
	SI ZE	•		90	9	15	16	81	22	54	58	30		0 0 3		STZE		2.	• •	•	10	15	* 4	18	20	25	25	58	36	
ING	9	1018.2	ALT (KM)	. 034	TEMP (C)	11.2	DEMPOINT	0.	TAS (M/S)	78.9			TOTALS	;		E .	1017.9		ALI (KW)		TEMP (C)	11.3	DE LO OT NT	0.00		TAS (4/S)	78.8		20101	210101
20 SECOND AVERAGING 9110* UMBER/ M**3-M1)	PRESTP		• •	•	• • •	•	•••				•		•	•	W H++3-141)	PRESTP		•	•••	0.	.0	•					•	::	•	
20 SE 129100	SIZE		249	116	1538	1835	2132	2726	3320	3617	3914	4508			R 29 120*	SIZE		404	240	1241	1538	1835	21.32	27.26	3023	3320	3617	4211	4508	
IGHT E78-23 ON 10 JUL 78 20 SECOND AVE INTRA'AL STATT*19129:00* PARTICLE SIZE DISTREATIONS (NUMBER/M***-M)	CLOUD			.0			• •		•••		•		,		INTERVAL START# 19129120# PARTICLE SIZE DISTRIBUTIONS (NUMBER'M##3~MM) TYPE: RAIN	CLCUO		0		0.	.0	•	•		. 9	.0	•••			
INTER SIZE D	SI ZE		£3	62	102	122	142	181	201	241	280	300			INTER SIZE D	SIZE		53	62	82	102	122	145	181	201	221	241	280	300	
FLIGHT E78-23 ON INTER PARTICLE SIZE	SCATTER	20.70	1.21E+67	8.09E+36	5.225+106	1.16E+06	1.75E+06	5.69E+05	5.76E+05			9.	20.20.	13	PARTICLE	SCATTER	300	1.146+07	1.62E+07	2.90E+06	4.63E+06	1.74E+16	1.16E+06		0.	.0	• 0	•••	.,	
1	ST ZE		•	9	10	12	16	18	25	54	28 28	30		MED 9		SIZE	;	2	3 C	00	10	15	16	18	20	22	50	28	30	

B	
2 # 1	
PASS	
1 FGL	
8	
STUDY	
LAYER	
HARINE	
AFHL H	

AFML MARINE LAYER STUDY BY AFGL

\$\$\text{\$\	1	PARTICLE		SIZE DISTRIBUTIONS (NUMBER/MEB3-M) TYPE: RAIN	CNUMBER	8/H8+3-HI)			PARTICLE	SIZE D	PARTICLE SIZE DISTRIBUTIONS (NUMBER H**3-14) TYPE: RAIN	S (NUMBE	R/ H++3-141)	
F. 28 E	ST ZE	SCATTER	STZE	CLOUD	SIZE	PRESIP		SI ZE	SCATTER	SIZE	CLOUD	SIZE	PRESIP	
11 12 12 12 13 13 14 15 15 15 15 15 15 15	5	PROBE	CHOS	PROBE	(40)	PROBE	P (MB)	(94)	PROBE	(H)	PROBE	(M)	PROBE	1017.9
1.165-16 5.2 0. 944 0. AIT (RM) 6. 2.985-17 4.3 0. 944 0. AIT (RM) 6. 2.985-17 6. B. 122 0. 123 0. AIT (RM) 6. 2.985-17 6. B. 123 0. AIT (RM) 6.	2	5.23E+06	23	.0	+0+			2	8.18E+16	23		101		
1,165.65 62 0. 1244 0. 1349 0. 1349 0. 1341		1.11E+07	43		249		ALT (KH)	*	1.58E+07	43	•	647	•	ALT (KH)
1,165 102 10	9 .	4.06E+06	62	•	446	•	.039	• •	2.93E+06	62	•	116	•	. 036
1,185 10 10 10 10 10 10 10 1		5.9/E+05	29		1541	•			9.442400	700	• • •	1641	•	100
11 12 12 12 12 12 12 12	01	1.16E+06	102		1538		(C) LEND	7.	•	100	•	1558	•	TEMP (C)
18 18 18 18 18 18 18 18	21	1.185+06	122		1835		14.1	16		166	•	1835	•	11.0
PARTICLE SIZE OLD TOTALS (W/S) 22 0 221 0 322 0 1 1	*	9.735105	741	•	2613	•	DEMONTAL	4 4	•	161	•	24.20	•	DEMONTAL
SCATTER SIZE CLOUD SIZE PRESTR PROPER CHU) PROBE CHU PROBE			181		2726		OCHLOTHIO	118		181		2726	. 0	0.
Color Colo	0		201		3023			20		201		3023	::	
Control Cont	22	0.	221	.0	3320	.0	TAS (H/S)	22	0.	221	0.	3320	0.	TAS (M/S)
Color Colo	54	0.	241	0.	3617	.0		54	0.	241		3617	0.	78.3
The color	56		260	.0	3914	.0		58	.0	260		3914	.0	
The value of the	28	.0	280	.0	4211	.,		28		280		4211	••	
THER VAL START**19130140** FARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*) SCATTER SIZE CLOUD SIZE PREJIP P (MB) (MU) PROBE (MU) PROB	30	.0	300		4508			30	.0	200	•	4508		
THER VAL STARTF*19130140* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*) SCATTER SIZE CLOUD SIZE PREJIP PROSE (MU) PROSE (HU) PROSE				the same of the same	-	*	TOTALS		5 075.05					TOTAL
Interval Staff		1.65E-U6		•		••		2	20.3/ 6-00					:
SCATTER SIZE CLOUD SIZE PREJIP PROBE P (HB) PROBE PR														
SCATTER SIZE CLOUD SIZE PRESTP STZE CLOUD SIZE PRESTP PROBE CHUI CHU	1.	PARTICLE		VAL START IT 15 ISTRIBUTIONS	(NUMBE	Pr Hee 3 - HV)			PARTICLE		AL START 1.	19131120	R/ H**3-M)	
SCATTER SIZE CLOUD SIZE PREJIP PROSE (MU) PROSE (HU) P			-	TYPE: RAIN							TYPES RAIN			
PROBE (MU) PRCBE (HU) PRDBE 1117-5 G 3.49E+06 23 0. 404 0. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	32	SCATTER	SIZE	CLOUD	SIZE	PRESIP		SI ZE	SCATTER	SIZE	CLOUD	SIZE	PRESIP	
2.91E406 23 0. 404 C. ALT (KH) 4 1.66E407 43 0. 404 0. ALT (KH) 6 4.166E407 43 0. 4647 0. ALT (KH) 6 4.166E407 43 0. 4647 0. ALT (KH) 6 4.166E407 43 0. 4647 0. ALT (KH) 6 4.166E407 43 0. 424 0. 4241	5	PROBE	CHE	PRCBE	CHO	PROBE	P (48)	(11)	PROBE	CHO	PROBE	(MI)	PROBE	P (MB)
1.34E 07 43 0. 647 0. ALT (KY) 6 1.66E 07 43 0. 647 0. ALT (KY) 6 2.85E 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2	2.91E+06	23	0.	404	9.		2	3.495+06	23	.0	*0*	.0	
5.03E+16 62 0. 1241 0. 1040 8 1.17F+16 62 0. 944 0. 1241 0. 1241 0. 1241 0. 1241 0. 1241 0. 1242 0. 1241 0. 1259 0. 1241 0. 125 0. 1242 0. 1243 0. 1259 0. 1242 0. 1259 0. 1242 0. 1259 0. 1242 0. 1259 0. 1242 0. 1259 0. 1242 0. 1259 0. 1242 0. 1259 0. 1242 0. 1259 0. 1242 0. 124		1.34E+07	63		647		ALT (KM)	3	1.68E+07	43		249		ALT (KH)
2.32E+06 62 0. 1241 0. 1EMP (C) 1.17E+06 62 0. 1534 0. 1540 0. 1520 0. 1538 0. 1540 0. 1520 0. 1538 0. 1538 0. 1520 0. 1538 0.	6	5.83E+16	62	0.	346		0.00	9	4.63E+06	62		946	0.	. 038
0. 192 0. 1559 0. TEMP (C) 16 5.08E+05 102 0. 1538 0. TEMP (C) 1.02 0. 1538 0. TEMP (C) 1.03 0. TEMP (2.32E+06	82		1241			80	1.17E+06	82	•	1241	.0	
0. 122 0. 135 0. 11.1 12 5.01E+05 122 0. 135 0. 142 0. 154 0. 135 0. 142 0. 142 0. 135 0. 142 0. 142 0. 143 0. 143 0. 144	07	9.	102	0.	1539	.0	TEMP (C)	10	5.80E+05	102		1538	.0	TEMP (C)
142 0. 2439 0. 2439 0. 144 0. 144 0. 144 0. 2432 0. 0EMPOINT 16 0. 2432 0. 2432 0. 0EMPOINT 16 0. 2432 0.	15		122		1835	•	11.1	12	5.81E+05	122	:	1835	•	10.9
161 0. 2429 C. DEMONT 15 0. 151 0. 2729 C. DEMONT 15 0. 151 0. 2729 C. DEMONT 15 0. 272 C. DEMONT 15 0. 27	1	.0	145	.,	2135			14		145	•	2132	•	
0. 221 0. 3728 0. TAS (M/S) 22 0. 221 0. 3728 0. TAS (M/S) 22 0. 221 0. 3320 0. TAS (M/S) 22 0. 220 0. 3314 0. 3314 0. TAS (M/S) 22 0. 220 0. 4211 0.	16	•	161		5459	:	DENPOTAT	91		161	•	2429		DEMPOINT
221 0. 221 0. 3367 0. TAS (M/S) 22 0. 221 0. 3320 0. TAS (M/S) 22 0. 221 0. TAS (M/S) 22 0. TAS (M/S)	818	•	181		2726			10	•	101	•	2022		•
0. 241 0. 3520 0. 148 (4/8) 24 0. 241 0. 3510 0. 148 (6/8) 24 0. 241 0. 3510 0. 148 (6/8) 24 0. 241 0. 3510 0.	0.0		201	•	5023			22		102	•	2000	•	
0. 260 0. 4514 0. 28 0. 260 0. 3914 0. 0. 0. 4518 0. 4518 0. 4518 0. 4518 0. 4518 0. 4518 0. 4518 0. 4518 0. 4518 0. 4518 0. 6. 0. 6. 0. 6. 6. 6. 6.	24	•	241	•	3547	•	78.5	542	•••	241		3617		
0. 280 0. 4211 0. 28 0. 286 0. 421 0. 0. 4508 0. 4508 0. 4508 0. 4508 0. 4508 0. 4.04E-06 0. 6. 0. 6. 6. 6. 6.	26		250		1017			26		260		3914		
0. 300 0. 4508 0. TOTALS 30 0. 300 0. 4508 0. 4.508 0. 6.04E-06 0. 6. 6. 6. 6.	2 0	: :	280		4211			28		286		4211		
4.04E-06 0. 6. 0. 0. 0. 0. 0. 0.	30		300	0.	4508			30	.0	300		4508		
4.04E-06 0. C. 0. LAG 5.10E-06 C. C.														TOTALS
	0	4.046-06						2			.0		:	:

	I NG	P (MB)		ALT (KM)	268.	TEMP (C)	10.5		DEMPOINT		TAS (M/S)	78.4			TOTALE	D. TOTALS			The same of the sa				1010.0		ALT (KH)	.102	TEMP (C)	10.2		DEMPOINT			TAS (#/S)	2.10		2 11.02	, DIALS	•	
FGL	20 SECOND AVERAGING 12120# Ilmber/ M**3-141)	PRES 1P PROBE	.0	•	•		.0			•			.,	•							/H+3-H41	PRESIP	PROBE			•			.0	.0	0.		•						
10 ye	20 SE1	SI ZE	404	249	***	1538	1835	2132	5459	2022	3350	3617	3914	4211	4508					132140*	CNUMBER	SIZE	CHO	101	249	116	1528	1835	2132	5429	2726	3023	3320	3916	4211	4508			
AFWL MARINE LAYER STUDY 9Y AFGL	IGHT E78-23 ON 16 JUL 76 20 SECOND AVER INTERVAL STAFT (* 19132 120* DARTICLE SIZE DISTRIBUTIONS (NUMBER/ M**3-M*) TYPE: RAIN	CLOUD	.0	. 9	•				0.	•			.0	.0	.0	,				INTERVAL STARTIF 19:32:40*	DARTICLE SIZE DISTRIEUTIONS (NUMBER/M*#3-MM) TYPE: RAIN	CLCUE	PROBE	.0	.0	• • •	•				.0		•					0.0	
FHL MAR	23 ON INTERV SIZE DI	SIZE	23	43	62	1 20	122	145	161	181	224	241	266	280	300					INTER	SIZE 91	SIZE	CHU	23	43	62	20.	122	162	161	181	201	221	142	286	300			
4	FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER PROBE	5.24E+06	9.84E+06	9.335+06	5.86F+15	0.000.0	::				• 0		.0			9.0.0	,			PARTICLE	SCATTER	PROBE	2.27E+16	1.80 E+37	6.23E+06	2.27E+06	2.625.63	•		0.	0.		•	• • •			5.11E-06	
DATA		31 ZE (M/I)	2	1	6		2	1 1	16	1.8	22	27	55	28	30		2 1					3175	(140)	2	t	9	œ .	10	77	9	1.8	26	25	54	200	30		LHC	
PASS #1 D	ING	(H9)	1117.9	ALT (KM)	.036		(C) (L)	10.0	DEMPOINT	.:		TAS (4/S)	18.8			TOTALS		END OF PASS					P (MB)	1016.	ALT (KM)	940.		TEMP (C)	10.9	OF LOOT MT	0. 10. 10.		TAS (M/S)	78.5			TOTALS		
FGL	20 SECOND AVERAGING 1140* UMBER/4**3-MY)	PRESTP PRSSE		•		• 0	• 0	•••		0.	.0	.0	•	•			.0	, L	5		(H+ 3-H)	0.000	PROPE				3.	.0								• • •	;		
JOY 8Y A	20 SEC 131140* (NUMBER/	SIZE		2019	116	1541	1538	1835	5672	2726	3023	3350	3617	3914	1218						CNUMBER		CAU		404	746	1541	1538	1835	2132	5454	2002	3320	3617	3914	4211			
AFWL MARINE LAYER STUDY BY AFGL	IGHT E78-23 ON 16 JUL 78 29 SESOND AVER INTELACE START'S 19131140" INTELACE START'S 19131140" PARTICLE SIZE DISTRIBUTIONS (NUMBER/40*5-MY) TYPES RAIN	CLOUD						:	•	•		.0	.0	•	•	•	.0	J			INTERVAL START 1-19:32:00" SIZE DISTRIBUTIONS (NUMBER/M**3-M) TYPE: RAIN		PRCBE		•			.0	•	0.	.,	•	• •	• • •	.0	•••	•		٠
FWL MAR	23 ON INTERV	SIZE		23	25	82	102	122	145	181	201	221	241	292	782	3							SIZE (PU)	1	52	3 6	82	102	122	145	161	181	221	241	260	280	000		
a	FLIGHT E78-23 ON INTE	SCATTER		9.87E+06	1. 55E+87	1.166+06	5.79E+05	.0		D./125.05			ů.	.,		•	6.75E-96	60			PARTICLE		SCATTE? PRO9E		6.39E+05	1.155+07	1.175+06		•	.:	3.	•	•	• • •		0.		3.265-36	9
		1 ZE		n.	J 10	0 00	10	12	4	D a	000	25	54	26	00 1	30	NC	0 031					37 ZE		2	t t	0 .	100	12	14	16	1.8	200	25	55	28	30	OKT	6 0 34

116		(MB) 4	200	ALT (KM)	190.	1540 (6)		11.6	DEMPOTAT	9.		TAS (M/S)	17.3			TOTALS	•			813		ALT (KM)	. 063	TEND (C)	11.3	-	0.00	;	TAS (4/S)	78.0			FOTALS
20 SECOND AVERAGING 5140* UMBER/H**3-HN3	PRESTP	PROBE	. 0	.0				•					•	::	:		•		(m-6-m)	PRESTP	0.				::	•		: :		.0	:		
20 S 9135140 (NUMBE	SIZE	(AC)	*0*	249	776	1241		21 12	2629	2726	3023	3320	3617	4211	4508			9136100	Serious	STZE	*0*	647	346	1631	1835	2132	2726	3023	3320	3617	3914	4511	
IGHT E78-23 ON 10 JUL 76 20 SECOND AVEI INTER-AL STATE 19155140* PARTICLE SIZE DISTRICTIONS (NUMBER/Me*5-MH)	00010	PROBE		.0		•				9	.0	.0			.,		0	INTERVAL STARTOR 19136000	TYPE: RAIN	CL OUD PROBE	.0			•									
23 ON INTER SIZE D	S1 7E	(nu)	2.5	*	62	20.	707	777	1 61	1 81	201	221	243	382	300			INTER	2210	S1 ZE (#U)	23	£.4	29	700	122	145	181	201	221	241	260	300	
FLIGHT E78-23 ON INTER PARTICLE SIZE	SCATTER	PROBE	5.736.07	6.20E+07	3. 31 E . 07	1.665.37	un. 3/4.2		5. ARF-05			0.	•		.,	3. 385-05	1		LAK I TOPE	SCATTER	4.57E+07	7.03E+07	3.81E+07	2.916+06	1.75E+16				.0	.0		•••	
	32.15	(0,0)	62	,	9 .		2 6	77			50	22	24	28	3.0		4:00			STZE	. ~	,	9.		15	1:	9 4	50	22	42	92	30	
94		p (MB)	1014.9	ALT (KM)	. 061	107 000	TEMP (C)	11.2	מביסטג מג	000000000000000000000000000000000000000		TAS (M/S)	78.5			TOTALS				6 (48)		ALT (KH)	.061	TCNO CEL	11.2		DEMPOINT	:	TAS (M/S)	77.8			TOTALS
-																																	
SOND AVERAGI	PRECIP	PRJEE	.,	.0	.0			:.	;.				•••	•			;		W-5-W	PRESTP PROBE				•									
20 SECOND AVERAGING 135100* (NUMBER/ M**3-M)	SIZE PRECIP		*0*	647 0.	.0 946	1241 0.	1558 0.	1835 6.	21.32 6.	2735	3023 0.	3329 0.	3617 0.		4508 0.	•	;	135120*	(NUMBER/ HEES-HA)	SIZE PRESIP	*0 0	647 9.	944 0.	1241 6.	1835 0.	2132 0.	2726 0.	3023 0.	3320 0.	3617 C.	3914 0.	4508 0.	
10 JUL 78 20 SECOND AVERAGI AL STARTIF 19135100* STREEDITONS (NUMBER/W**3-MM) YPE: RAIN	SIZE	(UM)	.0 404	0. 647 0.	.0 946 0.	1241 0.	15.58 0.	1835 6.	21.30 6	3235	3023 0.	3320 0.	3617 0.					#AL START 1* 19135120*	TYPE: RAIN		.0 ,0,	6. 647 0.	0. 946 0.	1241 6.	1835 0.	2132 0.	2725 0	3023 0.	3320 0.	0. 3617 C.	3914 0.	4511 0.	
10 JUL 78 AL START 19 1913 ISTRIBUTIONS (N	SIZE	PROBE (MU)		43 0. 647 0.	.0	82 0. 1241 0.	.0	• • • •	•		•		•	0. 0914	6054		,	INTER JAL START 14 19135120*	SIZE DISTRIBUTIONS (NUMBER/HTT-HT)	SIZE	.0	•	.0	•		•	•	• •		.0		300 0. 4508 0.	
FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGI PARTICLE SIZE DISTREDUTIONS (NUMBER/W**3-MM)	e SIZE CLOUD SIZE	PROBE (MU)		43 0.	62 0.	4E+06 82 0.	162 0.	122 0.	142 0.		•	221 0.	•	0. 0914	6054		9		PARTICLE SIZE DISTRIBUTIONS (NUMBER/Mers-H)	CLOUD SIZE PRCBE (MU)	.0	43 6.	62 0.	•	122 0.	142 0.	•	• •		.0		•••	

1 NG	P (MB)	7.6.101	ALT (KM)	. 058	TEND (C)	1104		DEMP OT NT	•	145 (4/5)	78.4			TOTALS		0		P (MR)	1115.6	ALT (KM)	550.	TEMP (C)	11.4		DEMPOI NI		TAS (4/S)	78.0			TOTALS
SOND AVERAG	PRESTP			•••	: :				•	::		0.		••		0	(Hee 3-141)	PRESTP	;	:	•			•			:	:	•		
20 SE 0137130	SIZE (MU)	191	249	116	1538	1835	2132	5459	2726	3326	3617	3914	4211	4208			137126" (NUMBER	SIZE	*0*	249	1761	1538	1835	2132	2725	3023	3353	3617	3914	4508	
IGHT E78-23 ON 1C JUL 78 20 SECOND AVERAGING INTER JAL START# 19137710* PARTICLE SIZE PISKRIGUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CLOUD		•	•	•				•			.0		• 5	.0	o	INTEQUAL START#19137120* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM) TYPER RAIN	CLCUC	:		•	4.24E+03			•	: :		3.	•	• •	
INTER SIZE 9	SIZE (MU)	23	7	82	102	122	145	161	181	221	241	260	280	300			INTERI SIZE DI	SI ZE	23	m#	2 62	102	152	145	181	201	221	241	280	300	
FLIGHT 578-23 ON INTER	PROBE	2.34E+08	3.948+08	2.97E+08	2.4.E+0.8	1.8.E+0e	1.388+98	9.05E+07	4.54E+07	4.735+07	2.39E+07	5.84E+16	5.83E+05	•	3.87E-03	17	PARTICLE	SCATTER PROBE	2.16E+08	4.535+08	4.53E+0A	3.465+08	2.85E+08	2.07E+08	1.95E+08	1.5.E+08	1.67E+08	6.34E+07	2.63E+07	0.	
	SI ZE	2	4	. ∞	10	15	14	16	18	22	54	92	28	20	140	0 03 M		SI ZE (40)	~	,	6 40	10	12	14 .	0 60	20	22	54	58	30	
9	1914.6		ALT (KM)	. 053	TEND (C)	11.3		DEMPOTINT	0.	(3/#) 347	79.0			TOTALS				P (#8)	1014.6	ALT (KM).	*90 *	TEMP (C)	11.3		DEMPOIN		TAS (4/S)	7.8.7			TOTALS
ZO SETOND AVERAGING 6:20* IUMBER/M***-M1)	PRISE	.,						;	•	• • •		9.	:		.,		(H-E-4H)	PRES IP PROBE	.,	.0		•		•					•		
20 SE 136120*	SIZE	+0+	249	776	1541	1835	2132	5459	2726	2000	3617	3914	4211	4508			13614 0*	SIZE (MU)	101	249	776	1628	1835	2132	2726	3023	3320	3617	3914	4508	
IGHT E78-23 ON 10 JUL 78 20 SEJOND AVER INTERVAL STRATT* 19136+20* PARTICLE SIZE DISTRIEUTIONS (NUMBER/H***-MM TYPE: RAIN	393 dd	:	.,		•				•	•			.0			•	INTERVAL STARTI" 19136140" Size distributions (number/H**3-M*) Type: rath	CLOUD	3.	.,	1.03E+04	•			•						
INTERV SIZE OF	SI ZF	23	£.4	62	285	122	142	161	181	201	241	260	280	300				SIZE	23	43	62	20	122	145	161	201	221	241	260	300	:
78	8.	10+3	3.69E+07	4.64E+07	2.15E+07	1.45E+07	325+36	.746+06	90+34.5		155 + 15	5.74E+05			4 645-04	14	PARTICLE	SCATTER PROBE	1.7 AF +GA	2.71E+18	2.32E+08	1.66E+08	9.97E+87	5.88E+07	6.82E+07	3.516+07	2.80E+07	1.63E+07	5.30E+06		
FLIGHT E78-23 ON INTER PARTICLE SIZE 0	PROBE	8.87E+07	8.69	4.64	2.15	1.0	2.4	1.7	3.4		::	2				:		SCI	-	2	5			5.			2	-			;

	GING	P (MB)		ALT (KM)		TENP (C)	11.5	THE TOURSE	DEMPOINT	:	TAS (M/S)	77.5			TOTALS				P (HB) 1015.3	ALT CON	. 058		TEMP ICI		DEMPOTINT	•	TAS (4/S)	77.5				D. TOTALS	•
15.6	20 SECOND AVERAGING 9138120* (NUMBER/M**3-M)	PRES IP PR3 BE								::						:		 V H++3-191)	PRESTP PROBE				•	: :		•	•			::			•
1004 84		SIZE	101	249	1241	1538	1835	2132	2429	3023	3320	3617	3914	4508				(NUMBER	SI ZE (MU)	104	116	1541	1538	2132	5459	2726	3063	3617	3914	4211	4508		
AFUL MARINE LAYER STUDY BY AFGL	IGHT E78-23 ON 10 JUL 78 20 SI INTERVAL START+ 19438120 PARTICLE SIZE USTATEUTIONS (NUMBE TYPE: RAIN	CL 0U0 PR 0BE	:				.0	•		•••			••	•	:		•	INTERVAL START # 19:38:40* SIZE DISTRIBUTIONS (NUMBER/M*#3-191) TYPE: RAIN	CL OUD PROBE	•			•			•	•	•		;;		.0	•
FWL MAR	10 SIZE OI	SI ZE	23	643	82	102	122	145	161	181	221	241	260	300					SI ZE (MU)	53	62	82	102	145	161	181	102	241	260	280	300		
	FLIGHT E78-23 ON INTER	SCATTER	1.69E+08	3.30E+08	3.07E+08	3.08E+08	2.73E+08	2.13E+08	1.92E+08	2.58E+08	2.10E+08	1.76E+08	1.52E+0 E	6. COE +U		1.496-02	22	PARTICLE	SCATTER PROBE	1.85E+08	9.95F+07	5.65E+C7	4.17E+07	1.94F+07	1.35E+07	2.12E+07	1.245+07	1.415+07	7.636+06	1.06E+07	5.81E+0 5	1.27E-03	22
INIA		SI ZE	~	*	• e	10	15	14	16	18	25	*2	9, 6	97	2		MED 0		SI ZE (4 U)	~	• •		10	71	16	18	92	27	2, 2,	3 %	30	3	W: 0 0
7# 2		(48)	0.5101	ALT (KM)	090.	TENP (C)	1103		DEMPOINT	•	TAS (4/S)	78.5			TOTALS	0.			P (HB)		ALT (KM)		TEMP (C)	11.4	DEMPOTINT	•		TAS (M/S)	78.1			TOTALS	;
A F GL	20 SESOND AVERAGING 7849* UMBER/M**3-M1)	PRESTP PRSBE	.0	.,		• • •		::	.0		•			•	•	.,	•	(Mes 3 - M)	PRES IP PROBE	.,	••		.0		•		.,		•	•			
94	SE S																						_		v 0		•	91		4 .	111		
no.	25 E	SIZE (MU)	404	249	776	1241	1835	2132	2429	2726	3123	3617	3914	4211	4508			19.38.30* CNUMBER	SIZE	101	249	1241	1538	1835	26.13	2726	3023	3326	3617	3914	4211		
INE LAYER STUDY	10 JUL 78 20 SET AL STARTI® 19:37:40* (STRIEUTICNS (NUMBER YPE: RAIN	CLCLO SIZE PRCBE (MU)	104	0. 647							0. 3023				.0	0.	0	VAL STARTI* 1938130* ISTRIBUTIONS (NUMBER TYPE: RAIN	CLOUD SIZE PROEE (MU)	*0*		1241	0. 153			0. 272					0. 42		:
=	3 CN 10 JUL 78 INTERVAL START# 1913 IZE DISTRIBUTIONS (N TYPE: RAIN		9.				•		: :	•	•			•			•	INTER SIZE D		:		•			•				•	•			
AFWL MARINE LAYER STUDY BY AFGL	3 CN 10 JUL 78 INTERVAL STARTIF 1913 IZE DISTRIBUTIONS (N TYPE: RAIN	CLCLD	9.	0 54	62 0.	82 C.	132 6	• •	161 6.	181 0.	231 0.	241 0.		286 0.		0.000.00		INTER VAL STARTIF 1938130* PARTICLE SIZE DISTRIBUTIONS (NUMBER TYPE: RAIN	CLOUD	:	43 0.	95 00	102 0	122 0.	142 0.	181 0.	201 0.	221 0.	241 0.	260 0.	•		;

	9NE	P (MB)		ALT (KH)	100.	TEMP (C)	11.6		DEMPOINT	•		TAS (M/S)	11.5				TOTAL	:					1015.3		ALT (KM)	. 05		ובאה וכי	•	DEMONTAL			TAS (4/S)	78.				TOTAL	;	
4FGL	20 SECOND AVERAGING 9140* IUMBER/N**3-M)	PRESTP PR38E	:	•	•								•			.0			0		8/ H** 3-M)	PRESIP	P43.8E	.0	0.	•		•	• •		•		0.0	.0	0.	.0	.0			
TUDY BY	20 SE 9139140	SIZE	101	249	1244	1538	1835	2132	5459	2726	3023	3320	3617	3914	4211	4508				00104161	CNUMBE	SIZE	CAO	101	249	116	1241	1558	1035	26.30	2726	3023	3320	3617	3914	4211	4508			
NFWL MARINE LAYER STUDY BY AFGL	ISHT E78-23 ON 10 JUL 76 20 SECOND AVER INTER-AL START*19139:40* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**5-M) TYPE: RAIN	CL OUD PROBE	0.		•	•				.0	••	.0	.0		•	.0		.0		INTER VAL START : # 191 4010 00	PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM) TYPE: RAIN	CLOUD	PROBE	.0	.0	.0	.0		•	: .	•				. 0		.,	•	•	
IFHL MAG	INTER	ST ZE (MU)	23	43	29	102	122	145	161	181	201	221	241	260	280	330				INTER	SIZE 0	SI 2E	(NO)	23	43	62	82	102	122	741	161	101	221	241	260	286	300			
	FLISHT E78-23 ON INTER	SCATTER	8.87E+07	1.41E+08 .	8.33E+07	2 065407	1.725+67	1.72E+07	1.36E+07	1.18E+07	8.88E+06	6.52E+06	5.91E+06	6.53E+06	1.19E+06	5.94E+05		7.13E-04	20		PARTICLE	SCATTER	PROBE	9.28E+37	1.18E+08	8.75E+07	4.76E+07	2.91E+07	1.55E+07	1.50E+U/	1.165+07	10.196.1	9.845406	7.525+36	5.22F+06	1.15E+36	0.		6.85E-64	
DATA		SI ZE	2	4	• •	•	22	116	16	18	25	22	54	92	28	30		LWC	0 0 3 _M			SIZE	5.5	2	1	9	30	10	15	10	9 .	070	22	37	26	28	30		4500	
PASS #2	92	P (#B)	10101	ALT (KM)	090.		11.		DE MP OT NT	0.		TAS (M/S)	78.5				TOTALS		0				1015.6		ALT (KM)	. 360		(C) dw31	11.5		DEMPOTNT	:	The IMAGE	77 0				TOTALS	••	
4 FGL	20 SECOND AVERAGING 9100* UMBER/ M**3-M*)	PRESIP		0.	••	•	•	•			.0		0.	.0	.0	.0		.0			(M-23-H/)	PRESTP	PPJ3E		0.	.0	.0	.0	• 0	0.		•••		•		•				2
VE YOU	20 SE (NUMBER	SI ZE	+0+	249	116	1241	1556	1835	2429	2726	3023	3320	3617	3914	4211	4508				439120	(NUMBER	SIZE	(MI)	707	249	116	1241	1538	1835	2132	5459	9212	3023	2550	100	4214	4508			
AFWL MARINE LAYER STUDY BY AFGL	IGHT E78-23 ON 10 JUL 78 20 SEDOND AVER INFRVAL STATT# 19139100* PARTICLE SIZE DISTRIEUTIONS (NUMBER/M**3-M*)	CL OUD PR CBE	. 0	0.	.0	,	•	•••			. 0		.0		0.	0.		0.	0	TNIFP JAL STARTIF 1939:20*	PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**:-MY) TYPE: RAIN	נרפחנ	PROBE			0.0	.0	.0	• • •		•	.0								2
FUL MAR	23 ON INTERV SIZE DI	SIZE	23	£4	62	82	102	122	161	181	201	221	241	260	280	300				TNIFO	SIZE DI	SIZE	CHO	2.6		62	82	102	122	145	161	181	261	221	241	200	300			
•	FLIGHT E78-23 ON 10 JUL 78 INTERVAL START** PARTICLE SIZE DISTRIBUTION TYPE: RAIN	SCATTER	1.475+08	1.89E+08	1.75E+08	1.54E+08	1.39E+38	1.13E+08	9.37E+07	4 355418	1.56F+18	1.855+08	1.835+08	1.98E+08	A.33E+07	5.81F+05		1.375-02	54		PARTICLE	SCATTER	PROBE	. 325.00	1.47F+18	9.73E+07	5.528+37	3.11E+07	1.475+07	9.96E+06	1.35E+07	1.295+07	8.22E+06	7.01E+05	7.54E+35	5.29E+06	ŭ. 035 r u o		7.69E-04	21
		SI 2E	•		9	6 0	10	15	1,1	0 4	20	22	24	56	28	30	3	CHC	0 0 3			ST 7F	502	•	t v			16	12	14	16	18	25	22	24	26	36		CHC	HED D

AGING	P (MB) 1016.5 ALT (KM)	TEMP (C) 11.6 DEMPOINT	TAS (H/S) 78-1	o.	P (MR) 1315.9 ALT (KM)	TEMP (C) 11.7 DEMPOINT	TAS (4/S) 77.5 77.5
20 SECOND AVERAGING 1100* IUMBER/M**3-M*)	PRESIP PROBE		:::::::		PRESTP 0.000		
20 SE 19641606* (NUMBER	SIZE (MU) 404 647	1241 1538 1835 2132 2429	2726 3023 3320 3617 3914 4211 4508	9 141 120°	512E (MU) 404 647 944	11538 2132 2429 3726 3023	3320 3517 3914 4211 4508
IGHT E78-23 ON 10 JUL 78 20 SECOND AVER INTRAAL STRATE 1944166* PARTICLE SIZE DISKRIEULIONS (NUMBER/M**3-M) TYPE: RAIN	CLOUD PRCBE			INTERVAL START (* 19 14.1120*) SIZE DISTRIBUTIONS (NUMBER/ M**3-MM)	CL 000 PR C9E 6.		
-23 ON INTER	S12E (MU) 23 43	62 102 122 142 161	181 221 221 241 260 280 300	INTER SIZE D	S12E 62.23	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3252
FLISHT E78-23 ON INTER PARTICLE SIZE	PROBE 1.196+08	1.09E+08 6.68E+07 6.21E+07 3.87E+07 3.93E+07 2.46E+07	1.82E+07 1.64E+07 1.23E+07 8.19E+06 4.69E+06 1.18E+06	1.08E-03 18 PARTICLE	PROBE PROBE 8.55E+07 1.35E+08 9.95E+07	6.83E+07 5.48E+07 3.60E+07 3.77E+07 2.07E+07	1.23E+05 3.55E+06 0.94E-04
	21.2E	0 & 5 5 5 5	25 25 26 26 36 36	6 0 0 3 3 3 7 7	S1 ZE (H U)	000 4980	1 3 8 8 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
911	1015.2 ALT (KM)	. 059 TEMP (C) 11.3	TAS (4/S)	10TALS	P (MB) 1016.0 ALT (KM)	TEMP (C) 11.6 DEMPOINT	TAS (H/S) 78.5 TOTALS 1.86E-05
20 SEZOND AVERAGING 6420* UMBER M**3-141)	PRESTP PROBE			0 0	PRESTR 6. 0.		
20 SF.	SI ZE (MU) 404 647	440000		* 0			
3 33	18 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	944 1241 1538 1835 2132 2429	3023 3023 3320 3617 3914 4211 4508	1401K)	S12E (MU) 464 647	1538 1835 2132 2429 2726	3320 3320 3617 3914 4211 4508
16 JUL 78 14 STARTITE 1914 ISTRIBUTIONS (N	<i>v</i> . •	100.000.000		G. G. START (*19 14014)	23E+C4		
3 CN 10 JUL 78 INTERVAL STARTIF 1914 IZE DISTRIBUTIONS (A	CLCUC PROBE			C. C. INTER AAL START 1*19 1 SIZE DISTRIBUTIONS (TYPE: RATN	CLCUC S PRCBE C C. 2.23E+64		
FLIGHT E78-52 ON 10 JUL 78 20 STONT PARTIE LATE STONT STATE 191-40.20* PARTICLE SIZE DISTRIBUTIONS (NUMBER/W**	SIZE CLCUC S (MU) PROBE (CLCUC S 43 0.	622 822 822 842 842 842 842 842	1181 1281 2241 286 386 386 386 386	1.05E-03 C. C. INTER-VAL START #*19 140140	SIZE CLCUO S (4U) PRCBE (23 C. 43 2.23E+C4	11.02 11.02 11.02 11.03	

	AG ING	9 .	1015.6	ALT CKM	. 055	TENP (C)	111.7	DEMONTH	DEMPOIN	:	TAS (M/S)	78.8			TOTALS				P (HB)	*********	ALT (KM)	. 057	107 0834	11.8		DEMPOTINE	:	TAS (M/S)	76.1			TOTALS		•
4 F GL	20 SECOND AVERAGING 2120+ UMBER/ N**3-NN}	PRES IP PROBE		.0	•		.0	•	•			•		.0		•	/ Nee 3-191)	01.300	PROBE	.0		•						: :	0.					•
TUDY BY	20 S 9 142120 (NUMBE	SIZE (MU)	*0*	249	1244	1538	1835	2132	2726	3023	3320	3617	4211	4508			9142140*	27.12	CMO	101	647	***6	15 28	1835	2132	2429	3023	3320	3617	3914	4211	4508		-
AFWL MARINE LAYER STUDY BY AFGL	IGHT E78-23 ON 10 JUL 78 20 SEGOND AVEI INTER/AL START#=19442120# PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**;-MM) TYPE: RAIN	CL OUD PRCBE	.0	. 0	•••			: -				•			.0	0	INTERVAL STARTIF 19142140* Size distributions (Numberym**3-PM)	Cu Cun	PROBE	.0	•	•				•			0.	.0				
AFHL MA	INTER SIZE D	SIZE	23	4.3	82	102	122	161	181	201	221	241	280	300			INTERV SIZE DI		CHC	23	£4.	82	1 92	122	145	181	201	221	241	260	280	200		
	FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER PROBE	9.96E+07	1.55E+08	7.39E+37	4.775+07	3.77E+07	2.56E+07	2.80E+G7	1.63E+07	1.64E+07	1.05E+07	2.34E+06	•	1.30E-03	19	PARTICLE	SCATTER	PROBE	5.28E+07	6.38E+07	3.28E+07	2.48E+87	2.52E+07	1.59E+07	1.88F+07	1.05E+07	1.29E+07	8.79E+86	4.68E+06	1.77E+06	;	8.46E-04	A CHARLEST STREET, CARRY STREET, SALES
DATA 2		ST ZE	2	3 .	0 00	10	. 12	16	18	20	25	50	28	30	LWC	450 0		SIZE	(140)	2	·t	0 00	13	15	14	1.8	20	22	54	56	28	20	LAC 0	
PASS # 2		6.5		מרג נאשו	• 620	TEMP (C)	11.7	DEWPOINT	0.		TAS (MYS)	0.6		Torres of	0.	0			P (MB) 1015.1		ALT CKM)		TEMP (C)	11.7	THE TOTAL	0.		TAS (M/S)	7.8.7			TOTALS		· · ·
	1NG	P (MR)		ALT		15		DEW			TAS				•						=		75	4	GATO	1		TAS					-	-
4FGL	ESOND AVERAGING	PRESTP P (0. TEP	•	0.0			O. TAS	• •			•	•	* (W##3-M)	PRESTP	PROBE		•	• •	0. TE	:		0.	.0	O. TAS				•		and the same
TUDY BY AFGL	20 SECOND AVERAGING (9141140* (NUMBER M**3-M)		.0 404	G. AL.		.0	1835 0.	2429 G. DEW			3320 0. TAS	3914 0.	4211 6.	4508 O.	•	•	(NUMBER/H**3-M)	4	(MU) PROBE	*0 +0+	•	1241 0.	1538 g. TE	1835 0.	•			3320 0. TAS	3617 0.	3914 0.	4211 0.		.0	The same of the sa
RINE LAYER STUDY BY AFGL	10 JUL 78 '20 SECOND AVERAGING ALE STAFFE 194414.0* STAFFE 1914116.0* (NUMBER M**3-M)	PRESTP PROBE	•			.0	1835 0.				•			0. 4508 0.	0.0	•	#AL START I* 1,9142100* ISTRIEUTIONS (NUMBER/M**3-MM) TYPE: RAIN	4	(1)		•	1241 0.	0.	1835 0.	•	2726 0.	3023 0.	3320 0.			4211 0.		0.0	the second secon
AFWL MARINE LAYFR STUDY BY AFGL	10 JUL 78 EVAL START 1914 ISTRIEUTIONS (N	SIZE PREJIP (MU) PROBE	•	0. 647 C. ALT	0. 1241 0.	0. 1538 0.	•		0. 2726 0.		3320 0.	•••			0.0	•	INTERAL START 1" 1,9142100" SIZE DISTRIBUTIONS (NUMBER/H**3-M) TYPE: RAIN	CLOUD SIZE P	(1)		0.0 647		0. 1538 0.		4132 W.	2726 0.	0. 3023 0.	3320 0.	•	•				the management of the same of
AFML MARINE LAWER STUDY BY AFGL	FLIGHT E78-23 ON 10 JUL 78 20 SEJOND AVERAGING INTERVAL START#* 194414.0* PARTICLE SIZE DISTRICUTIONS (NUMBER M**3-194) TYPE: RAIN	CLOUC SIZE PREJIP PROBE (MU) PROBE	23 0. 404 0.	0. 647 C. ALT	82 0. 1241 0.	102 0. 1536 0.	•	161 0. 2429 0.	181 0. 2726 0.	201 0. 3023 0.	3320 0.	260 0.			.0 0.	1.8 0	INTERVAL START 1" 1,9142100" PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**5-M)	SIZE CLOUD SIZE P	PROBE (MU)	23 0. 404 0.	0.0 647	82 6.	102 0. 1538 0.	122 0.	4132 W.	181 0. 2726 0.	261 0. 3023 0.	221 0. 3320 0.	241 d.	260 0.	•••		4.77E-04 0. 0. 0. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	the second secon

6 I N G		(8H) d	4.666	ALT COM	191	:	TEMP (C)	10.6		DEMPOINT	•	TAS (M/S)	83.8			2 14.01	B.	0				P (MB)	1000.0	ALT (KM)	.186		TEMP (C)	11.1		DEMPOIN		TAS (M/C)	81.2	7.10		
20 SECOND AVERAGING 3146* UMBER/M**3-M)	PRESTP	PRJBE					0.			• • •	•			.0	.0		0.	0		(NH-E sall	PRESIP	PRJEE	0.0		0.		.0	•	•	•						
20 SE 9143140* (NUMBER	SIZE	(MU)		200	776	1241	1538	1835	2132	6242	3023	3320	3617	3914	4211	4508				CNUMBER	SIZE	(MI)	404	647	116	1241	1538	1835	25.30	2726	2002	3350	3617	3914	4211	4508
-23 ON 10 JUL 78 20 SE3OND AVER INTER AAL STARTET1914346* SIZE DISTREUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CL 000	PROBE					6.	•	• • •	•	• •		. 9	.0	• • •		0.	0	ACCOUNTS TATE TO TAKE TATE	SIZE DISTRIBUTIONS (NUMBER/ MFE3-M)	CL cub	PROBE	0.	.,			•	•	•		• •				0.	.0
INTER	SI 2E	(UM)	2.0	13	62	82	102	122	245	101	261	221	241	266	286	300			TATES	SIZE OI	SIZE	CMC	23	43	62	85	102	777	161	181	201	221	241	266	280	300
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	PROBE	0 00 0	3.9.5+56	2.67E+08	1.72E+08	1.15E+08	8.3.E+07	7.27E+07	101101	4.04E+07	2.24E+07	8.72E+06	1.42E+07	2.71E+06	2.46E+05	2.318-03	18		PARTICLE	SCATTER	PR 03 E	2.135+09	2.61E+18	1.84E+08	1.30E+08	9.19E+67	6.03E+37	7.555407	3.87F+07	1.466+07	1.49E+07	1.06E+07	1.21E+07	2.2:E+06	• 6
	32 15	(40)	r		9	00	10	15	* * *		25	25	54	26	28	36	247	0 03.			37.18	(MA)	~	1	9	w	01	77.	1 1	2	20	25	54	26	28	30
		-	-	-	_	_										v	_																			
9 I N G		(8M) d	1014.4	ALT (KM)	. 065		(C) dW31	11.7	100000	DEMOTING	•	TAS (4/5)	19.4			TOTALS	.0					P (MB)		ALT (KY)	.121		IEAP (C)	11.4	DEMPOTAT	9	•	TAS (4/5)	82.8			-
SOND AVERAGING		PRIEE P (MB)	1314.4	S. ALT (KM)	590.	0.	O. TEMP (C)	11.7	ם.	OE WALL		C. TAS (4/5)	79.4	•	•	TOTAL	ū. ū.	END OF PASS		/H++3-H4)		PROBE P (MB)		0. ALT (KY)	0.		L. IEAP (C)	11.4	DEMPOTAT			0. TAS (4/S)	82.8		0.	9.
20 SEJOND AVERGING 91+3100* (NUMBER/M**3-M)	dIC3aa	PRIFE	1014.4		.0	0.	D. TEN	•••	21.32 0.	DE MENT	3023 0.		:		4211 0.	TOTAL	g. g.		1024	(NUMBER/ M**3-M*)	PRESTP			647 0. ALT (KY)	.0	•	i.	21.72		2726 0.		9.				9.
10 JUL 78 20 SEJONO AVERAGING ALL STAFFF 191-43100* STSTELLITONS (NUMBER/W**3-M4) YPE: RAIN	915399	CMU) PRIFE			.0	0.	D. TEN	•••	•••	DE MENT			:		4211 0.	:	ű. G. G.		AN CIABTER 10147 1200	STRIBUTIONS (NUMBER/HTT-HT)	PRESTP	(MU) PROBE		0.	.0	•	i.	•		0.0		9.				9.
10 JUL 78 VAL STARTI* 1914 ISTRIBUTIONS (N	SIZE PRESIP	PROBE (MU) PRIFE	0 307		.0 446	0. 1241 0.	D. TEN	1835 0.	21.32 0.	37.36 6	3023 0.	3320 0.	G. 3617 C.	3914	300 0 4211 0.	.1 6208	. 0. 0.		TATES JAI CTABLE 100 LECTOR	S	SIZE PRESTP	PROBE (MU) PROBE	0.0	0. 647 0.	0. 944 0.	1241 0.	i.	2112	2673	0. 2726 0.	3023 5.	3320 0.	9. 3617 0.	3914 6.		0. 4508 0.
FLICHT E78-23 ON 10 JUL 78 20 SEJOND AVERGING INTEVAL STAFF191-5100* PARTICLE SIZE JISPELDITONS (NUMBER/44*3-MM)	e SIZE CLCUC SIZE PRE3IP	PROBE (MU) PRIFE	0 307	43 6.7	62 (. 944 0.	82 0. 1241 0.	132 b. 1538 D. TEM	122 0. 1835 0.	21.32 0.	181 0 2735 6	261 0. 3023 0.	221 0. 3320 0.	241 0. 3617 C.	3914		.00 0.0	.0 .0 . 0.		INTERIOR STAFF STAFF	PARTICLE SIZE DISTRIBUTIONS (NUMBER/MORT-MA)	SIZE CLOUD SIZE PRESTP	PROBE (MU) PROBE	0.0	43 6. 647 0.	62 0. 944 0.	1241 0.	100 U. 1559 U. IEM	14.2 6 21.72 6	161 11 2429 0	181 0. 2726 0.	261 6. 3023 5.	221 0. 3320 0.	241 0, 3617 0,	260 0. 3914 0.	286 0. 4211	0. 4508 0.

9419	P (HB) 1012.0	ALT (KH)	TEND CE	11.5	DE MP OI NT	:	78.7			TOTALS	ū		P (MB)	MT 714	187		TENP (C)	11.5	DEMPOTNT			TAS (4/S)	18.8			TOTALS D.
26 SESOND AVERAGING 6120* IUMBER/M**3-M)	PRESTP	::.	•••		•	::					9	W H** 3-PM)	PRESTP PRSBE				•	•	::	•	.0	•			• •	.5
26 SE 19146120*	SIZE (MU)	101	1241	1835	2429	3023	3329	3914	4506			19:+6:40	SIZE (MU)	404	770	1241	1538	1835	2429	2726	3023	3320	3617	3914	4508	
-23 ON 10 JUL 78 26 SES OND A VER INTER VAL STAPTI* 1914-6120* SIZE DISTRIEUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CLOUD PRCGE					::	•		::			INTERVAL START #* 19:46140* SIZE OTSTREUTIONS (NUMREP! H##3-141) TYPE: RAIN	CLCUD	•	•	•		•	::	0.0				•	• •	:
INTERA SIZE DI	SI ZE (MU)	7 Y S	82	122	161	201	221	260	300				SI ZE	53	253	82	102	122	161	181	201	221	241	200	300	
FLISHT E78-23 ON INTER PARTICLE SIZE	SCATTER	3.02E+07 3.66E+07	2.21E+17 6.96E+16	1.746+06	0.00	0.	1.15E+05	9.	::	30-320	17	PARTICLE	SCATTER PROBE	1.86E+07	3.4.25.40	4.65E+06	2.89E+06	• 0	•	. 63	9.	•	•	•	•••	1.296-05
	37.26	· t 0	ω æ ;	15	91	20	25	56	36		4600		SI ZE	~ .	* u	0 00	10	15	+ t	18	20	25	54	92	30	977
										S	9					0	-	2				•	2			s.
941	P (MB)	ALT (KH)	780.	11.5	DEMPOTINT	•	TAS (4/S)	3.6		TOTALS	:		P (MB)		ALT (KM)	. 165	TEMP (C)	11.5	TATOONE	3.		TAS (M/S)	79.5			TOTALS
COND AVERAGING	ROPE	G. ALT (KM)	.00.		DENPOT		C. TAS (4/S)		•••	•		2/ H**3-H1)	PRIBE P (MB)		ALT		O. TEMP (C		G.	ייי פרייייייייייייייייייייייייייייייייי		TAS	.67	• 0		TOTAL
20 SECOND AVERAGING (945140* (NUMBER/M*3-M*)	PRESTP PROFE	0. ALT	•••		G. DENPOT	•••	G. TAS	::	4211 0. 4508 G.			(946110* (NUMBER/4**3-M)		.,	G. ALT		O. TEMP		2132 G.	ייי פריי פריי		C. TAS		3914 0.	4211 0. 4508 0.	
10 JUL 78 20 SECOND AVERAGING STAFF 1945540* STREEUTIONS (NUMBER/M**3-M*) TYPE: RAIN	PRESTP PROFE	0. ALT	•••	1935 0.	2429 G. DEMPOIN	•••	3320 G. TAS	::				IAL STARTI* 19446100* ISTRIBUTIONS (NUMBER/M**3-M4) YPE: RAIN	PR19E	.,	G. ALT	• • •	1538 0. TEMP		•	ייי פריי פריי	3623 6.	3320 C. TAS	3617 0.		0. 4211 0.	
10 JUL 78 RVAL STARTIS 194 DISTRIBUTIONS (N	CLCUD SIZE PRESIP	0. 404 0. ALT	1241 0.	1530 0.	C. 2429 G. DEMPOIN	0. 2725 0.	G. 3320 G. TAS	3914 0.	4211			INTERVAL START:* 1946600* Size distributions (NUMBER/***3-M) Type: Rain	SIZE PPESIP	.0 +0+ 0.	C. 647 0. ALT	944 0.	1538 0. TEMP	0. 1835 0.	2132 6.	77.6 0.	0. 3023 0.	0. 3320 0. TAS	0. 3617 0.	• • •		
FLIGHT E78-23 ON 19 JUL 78 20 SECOND AVERAGING INTERMAL START# 194-5140* DARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*) TYPE: RAIN	SIZE CLOUD SIZE PREJIP (MU) PROBE (MU) PROBE	23 0. 404 0. ALT	62 0. 944 0. 82 0. 1241 0.	8E+05 122 G. 1535 G. 1875 G. 1	142 U. 2429 U. DEWPOIN	0. 2725 0.	221 G. 3320 G. TAS	260 0. 3914 0.	0. 4211			INTERVAL STARTIF 1946100* PARTICLE SIZE DISTRIBUTIONS (NUMBER/W**3-M) TYPER RAIN	CLOUD SIZE PPE:1P PROBE (MU) PRABE	23 0. 464 0.	43 C. 647 0. ALT	62 0. 944 0.	G. 1538 G. TEMP	122 0. 1835 0.	142 0. 2132 0.	77.6 0.	261 6. 3623 6.	31E+05 221 0. 3320 0. TAS	241 0. 3617 0.	260 0.	•••	

	ING	P (MB)		ALT (KH)	. 085	TEND (C)	11.5		DEMPOINT	0.		TAS (M/S)	1000			TOTAL						1012.8		ALT (KM)	6.00		TENP (C)	•	DE WP OT NT	3.		TAS (4/S)	77.5			TOTAL	0.	
BY 1FGL	20 SECOND AVERAGING 7140* IUMBER/ N**3-M9)	SIZE PRECIP (MU) PROBE	.0 404	.0 24	944 0.	1541 0.	35 0.	2132 0.	.29 0.		5023 0.		3517 0.		4508 0.		•	9	*0 0*1	(NUMBER/ M**3-M)	۵	(MU) PROBE	.0 404	.0 240			933	2132 6.	.29 0.	2726 6.			3617 0.		4211 0.		:	0
AFML MARINE LAYER STUDY BY AFGI	194 18 CN	CLOUD SI	0.	.0	•	• • •	•		.0		•	• •	•		.0		.0	0		SIZE DISTRIBUTIONS (NU	Crend	PRCBE	0.	.0	.0	0.				0.0	.0	0.	.0	.0	•	• • • • • • • • • • • • • • • • • • • •	.0	0
AFHL M	FLIGHT E78-23 ON 10 JUL 78 INTERVAL STARTI* PARTICLE SIZE DISTRIEUTION TYPE: RAIN	SCATTER SIZE PROBE (MU)				2.915+06 82					201	13. 221	241	280	3.00		2.11E-05	3	INTE	PARTICLE SIZE	SCATTER SIZE			6.19E+07 43		0E+06	162	5. 89F+05 142		181	201	155 221	1,5 241	250	280	000	1.486-05	9
# 3 DATA	_	SI ZE		1 1				14			50	55 0	24	288	30			0 0 3				(HO)	2		9					0 00	. 50	22	24	56	28	50		NED 0
																S		0				20			6												2 5	23
PASS #	ING	P (#8)	0.1101	ALT (KH)	.087	TON GREAT	LEAT TO	11.4	DEMPOINT	0.		TAS (4/S)	78.0			TOTALS	•					1011.5		ALT (KM)	. 089		TEMP (C)	11.4	DEMPOTAT	J		TAS (M/S)	78.5				1-12E-05	
PASS	SESOND AVERAGING 00* BER/M**3-M)	PROSE PROSE	0.	.0	• 0	• •		• • •		.0		G. TAS	•		8 0.	TOTAL	.0	6	*02	BER/ M**3-M4)	PRESTP	FROBE		O. ALT	• 0	0.	0. TEMP	•			.0	O. TAS	• • • • • • • • • • • • • • • • • • • •			• • •	0. 1-12E-0	0
PASS	5 JUL 78 20 SE3 OND AVERAGING STARTHE 194,7100* RIBEUTIONS (NUMBER/H**3-M*) DET RAIN		0.	.0	• 0	• •		2132 6.		.0	3023 0.	3320 G. TAS	3617 6.	4211	4508	TOTAL	.0		. START 1#19 147120*	FRIBUTIONS (NUMBER/M*#3-MM)	SIZE PRE: IP	(MU) FROBE	*0 *0*	O. ALT	• 0	0.	0. TEMP	2132 6. 11.4			.0	O. TAS	• • • • • • • • • • • • • • • • • • • •				0	0
	16 JUL 78 VAL START ** 1964 ISTRIEUTIONS (N	SIZE PRESIP	23 0. 404 6.	43 0. 647 0.	62 0. 944 0.	.02 0. 1241 0.	123 0 1250 0.	142 0. 2132 0.	161 0. 2429 0.	181 3. 2726 0.	201 0. 3023 0.	0. 3320 G. TAS	3617 6.		0. 4508		0.			LE SIZE DISTRIBUTIONS (NUMBER/M**3-MY) TYPE: RAIN	CLOUD SIZE PRESIP	(MU) PROBE (MU) FROBE	23 8.46E+04 404 5.	43 0. 647 0. ALT	62 0. 944 6.	82 0. 1241 0.	1538 O. TEMP	•	0 2000	d. 2726 G.	0. 3023 0.	0. 3320 0. TAS	• • • • • • • • • • • • • • • • • • • •	6. 3914		.0 8064	1.126-05	23 0
PASS	FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING INTERVAL STARTH 194.7100* PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**3-M*) TYPE: RAIN	CLOUD SIZE PRESIP PROBE (MU) PROBE	1.76E+07 23 0. 404 0.	2.70E+07 43 G. 647 G.	9.375+16 62 0. 944 0.	1241 0.	122 0 125 0 1575 0	5.925+05 142 0. 2132 0.	0. 161 0. 2429 0.	6. 181 3. 2726 0.	5.89E+45 201 0. 3023 0.	U. 221 U. 3320 G. TAS	260 0 3617 6.	0. 280 0. 4211	300 0. 4508		1.576-05 0.			PARTICLE SIZE DISTRIBUTIONS (NUMBER/M*#3-MY) TYPE: RAIN	SIZE CLOUD SIZE PRESIP	(MU) PROBE (MU) FROBE	23 8.46E+04 404 5.	3.38E+07 43 0. 647 0. ALT	6.425.06 62 0. 944 6.	1.75E+06 82 0. 1241 0.	C. 102 C. 1538 C. TEMP	0. 142 0. 2132 0.	161 0. 2429 0.	0. 181 0. 2726 0.	0. 201 0. 3623 0.	0. 3320 0. TAS	0. 241 0. 3617 0.	0. 260 0. 3914	4211	o. 366 0. 4568 0.	5.76E-06 1.12E-05 0.	23 0

	ING	P (MB)		ALI (K4)		TEMP (C)	11.5	DEMP OT NT			TAS (M/S	79.5			TO T AL	••			(HE)	1012.1		ALI (KM)	100.	TEMP (C.)	11.5		DE MP OT NT	6.		145 (4/5)				TOTAL		
1 F G L	20 SECOND AVERAGING 9100* UMBEP/M**:-M1)	98531P	•	• • •		.0	•				.0	• •			,	•	1		PRESTA		• • •	• • •	:.			.0	• 0	• 0	•		•					0
STUDY BY	20 SE 19 :49:00* S (NUMBEP	SIZE	101	770	1241	1538	1835	2429	2726	3023	3350	3617	4211	4508			19149120*	Tanana s	SI ZE		100	100	***	1538	1835	2132	5459	2726	2000	3320	100	4211	4508			
AFWL MARINE LAYER STUDY BY AFGL	ISHT F78-23 ON 10 JUL 78 20 SEJOND AVE INTERAL STATT-19191919 PARTICLE SIZE DISREGUTIONS (NUMBER/M**;-MM TYPE: RAIN	CLOUD	•	• •		.0	•		.0			• • •		.0			INTERVAL START # 19449120*	TYPE: RAIN	CLOUD	,	•	•	• • •		.0	.0	.0	.00		• •			9.			
AFWL MAR	-23 ON INTERV SIZE DI	SI ZE	23	3 6	82	102	122	161	181	201	221	260	286	300			INTERV	1	SI ZE	;	2.	7	200	132	122	145	161	181	100	241	143	286	300			
	FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	1.33E+07	9.845406	3.47E+06	5.82E+05	•	. 0	.0	•	0.		.0	• 6	200	8.105-05	200		SCATTER		0.196+07	0.025.03	2 925406	3.	5.83E+05	.0	•	. 0		• •			.0		1.4.E-05	100
DATA		37.78	2.	t (0 00	10	12	16	18	20	25	2,4	28	30		1 1 1 1			ST ZE (MU)	,	٧.	, ,	c .	10	12	17	16	1.8	200	27	36	28	33		000	4600
# 3															v																			n		٥
PASS	SING	P (MR)		ALI (KT)		TEMP (C)	11.5	DENPOTAT	0.		TAS (4/S)	78.1			LILALS	;			P (M8)	1011.9		ALI (KM)	. 186	TEMP (C)	11.5		DEMPOINT	0.		78.7				TOTALS	•0	
PASS	COND AVERAGING	PROBE P (MR)	0.	ALI (KE)		G. TEMP (C)	0. 11.5				0. TAS (4/S)	0.0					1 2 1 2 1 4 4 M		PROSE P (MB)	1011.9		J. ALI (KM)		C. TEMP (C)	11.5	.0	DEMPOINT			185 (475)			9.		.0	0
PASS	20 SETOND AVERAGING 9148120* (NUMBER/M**3-MM)		100 000	0.0		.0	•			• • •	C. TAS			.0			* 0 + 1 + 0 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +				.0 404	J. ALI	•	1538 0. TEMP (C)	0.	.0	OEMPOIN					4211 0.			.0	0
PASS	10 JUL 78 20 SECOND AVERACING ALS TESTET 1914.8120* STREED ITONS (NUMBER/M**3-M*) TYPE: RAIN	PROBE	•	0.		.0	•		. 2726 0.	3023 0.	tAS (• • •	4211	4508 0.			AL STAFF # 194840*	TYPE RAIN	PROPE			J. ALI	•	1538 0.	1835 0.	2132 0.	2429 G. DEWPOIN	•	.0 6206		3017				0. 0.	0
	10 JUL 78 PVAL START 1* 1914 DISTRIGUTIONS (N) TYPE: RAIN	SIZE PRESIP	.0 404	047 U. ALI	1241 0.	J. 1538 C.	•	0. 2429 0.	0. 2726 0.	3023 0.	0. 3320 0. TAS	3914 0.	0. 4211	0. 4508 0.		•	INTEQUAL STAFT* 19148140*	TYPE # PAIN	SIZE PRESIP	•	• 0 404	U. 647 J.	.0 446	1538 0.	0. 1835 0.	0. 2132 0.	0. 2429 G. DEWPOIN	2726 6.	1100	3520 0.	3944		0. 4538 3.		.0	0
PASS	FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERGING INFRAMA STAFFF 19148120* PARTICLE SIZE DISTREUTIONS INUMBER M**3-MM) TYPE: RAIN	CLCUD SIZE PRESTP PROBE (MU) PROBE	.0 404	43 U. 944 U.	62 0. 1241 0.	102 0. 1538 0.	1835 0.	0. 2429 0.	0. 2726 0.	3023 0.	0. 3320 0. TAS	10. 3914 0.	0. 4211	0. 4508 0.		•	INTEQUAL STAFT + 1914814G*	TYPE: PAIN	CLOUD SIZE PRESIP		• 0 404	שרו פליו פליו שרו שרו	.0 446	102 0. 1538 0.	122 0. 1835 0.	0. 2132 0.	0. 2429 G. DEWPOIN	181 G. 2726 C.	00 0000	7617	266 6. 3944 6.		0. 4538 3.		.0	0

	ING	P (MB)		ALI (KA)		TEMP (C)	11.4	DEMPOINT	9.	TAS (N/S)	77.8			TOTAL	0.			(MB) q	1311.8		ALI IN		TEMP (C)	11.3		DEMPOINT	•	TAS (4/S)	77.7			TOTAL		
AFGL.	29 SECOND AVERAGING 19120* IUMBERZM**83-M1)	PRESTP		• •	•••	• • • • •	•••			• •		0.			0.	0	(H** 3-H4)	995399		•	•	: :								.0	•	•		
TUDY BY	20 SE 9150120* (NUMBER	SIZE (MU)	404	1 100	1241	1538	1835	5459	2726	3023	3617	3914	4211	4508			19:50:40"	SIZE (MU)		*	1 10	***	1538	1835	2132	6242	3023	3320	3617	3914	4211	4200		
AFWL MARINE LAYFR STUDY BY AFGL	ISHT F78-23 ON 10 JUL 78 29 SE3OND AVER INTER-AL STABT#19150120* PARTICLE SIZE DISTRIBUTIONS (NUMBER/W**3-M) TYPE: RAIN	CLOUC	•	•	• •	•			• 0				•	•	.0	ú	INTERVAL STARTI" 19150:40" SIZE DISTRIEUTIONS (NUMBER/M**3-MY) TYPE: RAIN	CLCUD		•	•	•	•		.0	•	•					• 0	:	0
AFWL MAR	INTER	SI ZE	23	1.3	82	102	122	161	181	22.1	241	260	285	356			SIZE D	SIZE	:	3	54	29	132	122	145	161	181	221	241	260	280	200		
	FLIGHT F78-23 ON INTER PARTICLE SIZE D	SCATTER	6.45E+06	1.00E+07	3.53E+06	1.74E+06	5.86E+05		• 0	•••		::	0.	•	8.65E-36	6 0	PARTICLE	SCATTER		1.03E+05	1.535+07	4.72E+36	1.785+36		• •	•	•		; ;		•	• 0	6.31E-66	7
# 3 DATA		ST 2E (4U)	a		c «c	10	15	19	1.0	22	24	58	28	30	3	4400		STZE	; '	~	3	1 0 2	•	12	1.4	16	8 6	000	24	56	28	30	CHC	ME D D
# 3		783					10								7				- 1															0
PASS	ING	6 CHB)		ALT (KM)	. 080	TEMP (C)	11.4	DEMPOINT	0.	10777 341	78.	1.0		TATALS	9.			0	1011.8		ALT (KM)	. 087	TENO (C)	11.4		DEMPOINT	0.	TAC (W/C)	19.67			TOTALS	O. O.	
	ECOND AVERAGING	PRESID PROBE P (MB)		ALT			0. 11.4			.0	CAL		.0		9.		2/ H**3-M9)	PRESID PERSID		•	G. ALT (KM)	.087	TENO CE	11.4		OEMPOINT		TAS CAZE	79.4	.0	.0			0
	20 SECOND AVERAGING 9149146* (NUMBER/M**3-M*)			O. ALT	• • •	. 0			.0						9.		(NUMBERZ M**3-M4)				G. ALT	•	• •		2132 6.	G. DEMPOIN	ې د	•	3617 0. 79.4		4211 0.	•		0
	10 JUL 78 20 SECOND AVERAGING VAL STAFFF 19149146* ISSREEUTIONS (NUMBER/M**;-M*)	PRESTP PRSHE	• • • • • • • • • • • • • • • • • • • •	0. ALT	• • •	. 0	•		2726 6.	• •					9.0		JAL STARTI ⁿ g 150100° ISTRIEUTIONS (NUMBER/M*#3-M4) Type: Rain	PRESID			647 U. ALT	•	• •	1835 0.	2132 6.	2429 C. DENPOIN	ې د	2300	3617 0.	3914 0.	0. 4211 0.	.0 8064	0.0	0
AFML MARINE LAYER STUDY BY AFGL	10 JUL 78 VAL STARTIF 1914 ISTRIEUTIONS (N	SIZE PRESIP (MU) PRSE	.0 404 0.	0. 647 0. ALT	0. 1241 0.	0. 1538 0.	•	2429 0.	0. 2726 0.	3023 0.	3350 0.	3914 0.		0. 4508 0.	6. 6.	0	SIZE D	SIZE PRESIP		***************************************	מיי פאל מי ארד	944 6.	1538 0.	1835 0.	0. 2132 6.	2429 C. DENPOIN	2726 6.	4420	3617 0.	3914 0.		.0 6064	0. 0.	
	FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING INTERVAL STAFFT 19:4914.6* PARTICLE SIZE DISPETEUTIONS (NUMBER M**3-M*) TYPE: RAIN	CLCUC SIZE PRESIP PRCBE (MU) PR36E	.0 404 0.	43 U. 647 U. ALT	0. 1241 0.	102 0. 1538 0.	0. 1835 0.	2429 0.	0. 2726 0.	3023 6.	3350 0.	260 0. 3914 0.	0. 4211	0. 4508 0.	9.39E-06 0. 0.	0	INTERVAL STARTITS 150120* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M4) TYPE: RAIN	CLOUD SIZE PRESIP		• 0 +0+	45 U. 647 U. ALT	944 6.	162 0. 1538 0.	5E+06 122 0. 1835 0.	142 0. 2132 6.	161 G. 2429 C. DEMPOIN	2726 6.	221 0. 3320	3617 0.	3914 0.	0.	.0 6064	0. 0.	

	9 ING	P (MB)	707707	ALT (KH)	. 085	TEND (C)	11.4	1000100	Dem of m		TAS (M/S)	6.07		TOTALS				(HB) 4	1011.8	ALT (KY)	. 087	101	LEAF ICT		DEMPOINT	•	TAS (H/S)	78.6			O. TOTALS
1 FGL	20 SECOND AVERAGING 1140* UMBER/ M**3-MY)	PRESTP PR38E	.0		•	•		•					.0	•	0.		/H+3-H)	PRESIP	. 0	0.	••						• • •				
TUDY BY	20 SE 9151140*	SIZE (MU)	+0+	249	576	1538	1835	2132	2726	3023	3320	3914	4211	4508			9 152 100*	SI ZE (MU)	101	249	116	1421	1835	2132	5459	2726	3320	3617	3914	4211	
AFHL MARINE LAYFR STUDY BY 1FGL	23 ON 10 JUL 78 20 SECOND AVEI INTEXAL STATIT: 1951140* SIZE DISTRIBUTIONS (NUMBER/M***-MM) TYPE: RAIN	PROBE	.0		•	• •	.0	•			•	• •	• • • • • • • • • • • • • • • • • • • •	••	.0	0	INTERVAL START#19#52#00# SIZE DISRREUITONS (NUMBER/M**3-M) TYPE: RATN	CL OUD PRCBE	.0	.0				:	.0	•			•		••
AFWL MA	-23 ON INTER	SI ZE (MU)	23	43	62	102	122	145	181	231	221	260	280	30,			INTER SIZE D	SI ZE	23	43	62	200	122	145	161	181	221	241	260	300	
	FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER PROBE	1.07E+07	1.60E+07	4.16E+16	1-196+06	.0	1.19E+36		.0	•			.,	7.83E-06	10	PARTICLE	SCATTER PR 08 E	7.02E+36	1.63E+07	3.496+06	201200	2.	0.0		•			•		4.74E-06
# 3 DATA		ST ZE	2	1	9 0	100	12	11.	18	20	25	92	28	10	01	033		ST ZE (*U)	~	t	y a		12	1,1	16	18	25	54	56	30	CHC AFD 0
PASS # 3	ING	P (MB)	-	ALT (KM)	180.	TEMP (C)	11.2	THE NO TENT	6.		TAS (4/S)			TOTALS	0.	0		P (M8)	1012.2	ALT (KM)	. 084	TOND IN	111.3		DEMPOINT	9.	(M/S)	77.3		2 141.01	0. 0
								-	,		-											•	-		90		TAS				
AFGL	FCOND AVERAGE R/ 4** 3- N4)	PRESTP PRSBE	.0		•				• • •				:.	•	.0	9	Q/ HF#3-M43	PRESTP PROBE	.,	.0	•		. 0		0. 0.	0.			• 0	• •	
TUDY 3Y AFGL	20 SFCOND AVERAGING (9151110* (NUMBER/ M**3-M*)	SIZE PRESTP (MU) PROBE	.0	.0 249	.31.1	1538 0.				.0			. 4211 C.		.0	٥	915112 0" (NUMBER/ M**3-M*)	SIZE PRESIP (MU) PROBE	404 0.	9.	1271		. 0		•		; ;	•		4508 C.	0.0
RINE LAYER STUDY 3Y AFGL	10 JUL 78 20 SFCOND AVERAG VAL STARTI+ 191511.00* ISTRIEUTIONS (NUMBER/ M**3-MM) TYPE: RAIN		.0		944 0.		1835	• • •	2726 0.	3023 0.	• •	3914		0000		0	JAL STARTI* 1915112 (* ISTRIEUTONS (NUMBER/M**3-MM) TYPE: RAIN			9.	944 0.		. 0	:	•		3320 C.	3617 0.	3914		0 0 0
AFML MARINE LAYER STUDY BY AFGL	10 JUL 78 VAL STARTI* 1915 ISTRIEUTIONS (N	SIZE (MU)	.0	•		.0	1835	2132 0.	0. 2726 0.	3023 0.	9. 3517 0.	0. 3914	4211	0064			SIZE D	SIZE F	t0t .0	9.	•	127	1935 0.	0. 2132 0.	2429 0.	0. 2726	9. 3320 C.	3617 0.	3914	4508	0
AFML MARINE LAYER STUDY 3Y AFGL	JUL 78 STARTI# 1915 IEUTIONS (N	SIZE CLCUD SIZE	23 0. 404 0.		•	1.02 0.	1835	2132 0.	0. 2726 0.	3023 0.	9. 3517 0.	0. 3914	4211	•	0.	9	INTERVAL STARTI* 1915112 (*) PARTICLE SIZE DISTRIEUTIONS (NUMBER/M*3-M4) TYPE! RAIN	CLOUD SIZE P	23 0. 464	43 0. 647 0.	•	102 6- 1538 6-	122 6. 1835 0.	142 0. 2132 0.	2429 0.	201 0. 2726	221 5. 3320 C.	241 0. 3617 0.	0. 3914	300 0. 4508	0

6 ING		P (MB)		ALT (K")	. 087	TEMP (C)	11.2		DENDOINE	9.	137 77 341	78.1	•			TOTALS	•			P (#B)	1011.2	ALT (KH)	. 092		TEMP (C)		DEMPOINT	0.		TAS (M/S)	1001			O. TOTALS	0 000 00 00
20 SECOND AVERAGING	(HE 3 - HI)	PRECIP	.0	.0	•••				0.		•	•			.0				(M-88-H)	PRESTP	•			.0	•		.0	.0		• •	•	• • •		.0	
20 SE	CNUMBER	SI ZE (MU)	404	249	116	1538	1835	2132	5458	2726	3023	3350	3914	4211	4508				(NUMBER	SIZE (MU)	707	249	946	1541	1538	1835	2429	2726	3023	3320	3617	3914	4508		
3 ON 10 JUL 78 20 SE	PARTICLE SIZE DISTRICUTIONS (NUMBER METS-MM)	CLOUD	0.	.0	•	•			.0	• • •	٠.	•	• •		0.		•	•	INTERVAL STARTIFLO 153120* PARTICLE SIZE DISTRIBUTIONS (NUMBER/WWW3-MY) TYPE: RAIN	CLOUC	,			.0		• •			.0	•	• •	• • •	::		,
-23 ON	SIZE DI	SI ZE (MU)	23	43	62	1 0 2	1 22	145	161	181	201	221	241	280	300				SIZE DI	SI ZE		5 2	62	82	102	122	161	181	201	221	241	280	300		
FLIGHT F78-23 ON	PARTICLE	SCATTE? PROBE	4.68E+06	1.416+07	8.21E+06	2.936+06	2.052.00		9.	.0		9.	•		.0	:	5.74E-06	٥	PARTICLE	SCATTER		1.635467	6.95F+06	2.92E+06	1.736+06	5.77E+95			0.	.0		•	•••	A	8
		ST 7E	2	,	9	.00	101	14	91	18	50	25	24	28	36		0 1	0 0 0		SI ZE		V 4	* 4	0	10	15	1 1	19	20	25	54	25	30	0	2 6
ING		P (M9)	1011.3	ALT (KM)	. 091	107	LEMP (C)	2111	DEMPOINT	0.		(S/H)	78.6			TOTALS		0		(MB)	1011.5		AL: (RT)		TEMP (C)	11.2	14	0.		(S/H)	77.9			TOTALS	:
RAG				AL		•			DE			TAS					å			۵	-	•	AL		TEMP		TA TOOL 20	DEM		TAS					
SOND AVE	(H##3-H4)	PRESTP		0. AL	.0	.0		•••	0.0		.0	C. TAS	•	•				0	37 H** 3 - 1913	PRESID				• •		•		3.		TAS	0.	. 0	•••		
20 SECOND AVERAGING	152120* (NUMBER/M**3-MM)	SIZE PRESIP (MU) PROBE	0 404		944 0.	.0		1835 U.		. 0	.0		3617 0.	3914 0.	4508 0.			6	(NUMBER/ M**3-M)			•				1835 0.	•		• 0	0. TAS			4211 0.		•
10 JUL 78 20 SECOND AVE	AL START:*19:52:20* STRIEUTIONS (NUMBER/M**3-MM) YPE: RAIN	۵	u.			1241 0.		1835 0.		. 0	.0		0. 3617 0.	3914 0.	4508 0.			0	AL STAPT# 19:52 thg* ISTRIEUTIONS (NUMBER/M**3-MM) YPE: RAIN	PRESID	Total Total	*0 +0+	.0		1538 0.	1835	21.32 0.	•••	3023 0.	3320 0. TAS	3617	3914			
10 JUL 78	INTER JAL START: 19:52:20* SIZE DISRIBUTIONS (NUMBER/M**3-M*) TYPE: RAIN	SIZE P	104	9- 647 0-		1241 0.	1538 0.	•	0 6242	. 0	0. 3023 0.	0. 3320 C.	• 0	•	300 0. 4508 0.		0.		INTERVAL STARTI# 19:52 140* SIZE DISTRIEUTIONS (NUMBER/H**3-141) TYPE: RAIN	SIZE PRESIP	1000	.0 404 0.	0. 647 0.	1241	1538 0.	1835	2132 0.	2726 3.	3023 0.	0. 3320 0. TAS	0. 3617	3914	4211		
FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVE	ANTICLE SIZE DISTRIBUTIONS (NUMBER/N##3-MM) TYPE: RAIN	CLOUD SIZE P	20 404 0.	9- 647 0-	62 0.	82 0. 1241 0.	3E+06 102 0. 1538 0.	122 0.	0 6242	2726 0.	0. 3023 0.	0. 3320 C.	• 0	•			16 0.		INTERVAL START # 19 #52 #40* PARTICLE SIZE DISTRIBUTIONS (NUMBER/ M**3-M4) TYPE: RAIN	CLOUD SIZE PRESIP	ביים ביים ביים ביים ביים ביים ביים ביים	23 0. 404 0.	43 0. 647 0.	1241	102 0. 1538 0.	122 0. 1835	2132 0.	2726 3.	3023 0.	0. 3320 0. TAS	0. 3617	3914	0. 4211	;	LWC 3.85E-06 0.

3 ING	P (MB)	ALT (KH)	.115	11.3	DEMPOTAT		TAS (H/S)	77.3		TOTALS	;		P (MB)	ALT CKHI	.114	-	11.3	!	DEMPOINT		TAS (4/5)	:		TOTALS
20 SECOND AVERAGING 6120* UMBER/ N**3-MI)	PRESTP	::	::		•			•••				H**3-M)	PRESTP PRSBE	•			• •	.0			•			;
20 SEC 9156120* (NUMBER/	SIZE (MU)	104			2132	2726	3320	3617	4211			19156140* (NUMBER/	SIZE	404	116	1241	1538	2132	2429	3023	3320	3914	4211	-
IGHT E78-23 ON 10 JUL 78 20 SECOND AVEI INTERALL STABTIE-19156:20* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M+#3-MH) TYPE: RAIN	CL OUD PROBE	::	.:	::	•			•••	0.0			INTER VAL STARTIR 19156140* Size distributions (Number/ H**3-M4) Type: Rain	CLCUD	•		.0	•••		• •		•	::	•	•
INTER	SI ZE (MU)	23	62	102	145	181	221	241	300			INTER SIZE D	SI ZE	23	62	82	102	145	161	201	221	260	280	200
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATT ER PROBE	4.62E+07	3.61E+07	1.78E+06 1.76E+06		5.92E+05		• •	9.		3.11E-U5 6	PARTICLE	SCATTER PROBE	8.65E+07	7.72E+07	4.51E+07	2,55E+07	7.09E+06	4.73E+06	5.91E+06	4.73E+06	5.94E+05		•
	ST ZE	t 13	ω σ ο	10	4 4	8 6 6	25	2¢	36		0 0 3 3		ST ZE (* U)	N .	• •	10	150	14	18	20	25	56	120	3
ING	C. 600.	AIT (KN)	.117	TEMP (C)	2000	.0.	TAS (M/S)	77.1		TOTALS	•		P (MB)		ALI (177)		TEMP (C)	3	DEMPOINT		TAS (H/S)	78.9		TOTALS
2G SECOND AVERAGING 5640* IUMBER/ H**3-M)	PRESIP				:	• •	•••			:	•	(H++3-M)	PRE:IP PR38E		• • •		•	; .	•			•	• • •	•
20 SE 1855440* (NUMBER	SI ZE (MU)	101	116	1538	2132	2726	3320	3617	4211	9		9156188	SIZE (MU)	101	770	1241	1538	2132	2429	3023	3320	3617	4211	4508
IGHT E78-23 ON 10 JUL 78 2G SECOND AVER Interval Start? 195540° Particle Size distributions (Number/ M**3-M) Type: Ratn	CI. OUD	•				::				;	• • • • • • • • • • • • • • • • • • • •	INTERVAL STAFT:*19:56:00* Size distributions (number/m**3-MM) Type: Pain	CLOUD	0.			.0			•••		•	•••	•
INTER SIZE DI	SIZE	23	25	102	145	161	201	241	280	200		INTER SIZE 01	SIZE	23	5,5	95	102	145	161	181	221	241	280	300
00 W											2	CLE		1		. 0	2							
FLIGHT E78-23 ON INTER	SCATTER	1.48E+07.	8.896+06	5.90E+05	1.17.446				• • •	•	1.08E-05	PARTICLE	SCATTER	1.925+07	3.71E+07	4.63E+06	5.78E+05	• •	. 0		::	••	• • •	. 0

	ING	P (MB)	A17 714	***	777.	TENP (C)	11.4	100000	DEMPOIN	:	TAS (M/S)	77.3			TOTAL						1908.8		ALT (KM)	.112	-	TENP (C)	111.	DEMPOTAT			TAS (M/S)	78.4			TOTAL		
1941	20 SECONO AVERAGING 7740* IUMBER/H**1-M1)	PRESTP PRSBE	:	•	•••	.,	•		•	• •	0.	.0	•	••	•	.0	0		Charles and a	PRETTP	PKJPE			:			•				:	٠		• • •			
10 YOU	20 SE	SIZE (MU)	101	140	1241	1538	1835	2132	6242	3023	3323	3617	5914	1124	4200			958100	CNOTE	SIZE	(OE)	404	249	776	1241	1538	2132	5429	2726	3023	3323	3617	3914	4508			
AFWL MARINE LAYER STUDY BY SFGI	ISHT E78-23 ON 10 JUL 78 20 SECOND AVE INTERVAL STABRY:19:57:40° PARTICLE SIZE DISTRIEUTIONS (NUMBER/HW#3-HM	CL OUD PR OBE			•••	0.		•	•	• •		:		•	.,	.,	u	INTERMAL START IN 1958 100*	TYPE: RATH	CLCUD	PROBE	.0	. 9	.0	:	•				.0				• •		• • •	•
AFHL MAR	INTER	SI ZE	23	2 0	95	102	122	145	161	181	221	241	260	200	200			INTER	SICE	SIZE	010	23	£4	62	82	162	777	161	181	201	221	241	260	280			
	FLIGHT E78-23 ON 10 JUL 78 INTER AL STAPT 1 PARTICLE SIZE DISTRIBUTION TYPE: RAIN	SCATTER PROBE	1.95E+08	3.325.00	3.28E+08	3.16E+68	2.70E+08	2.03E+08	2.04E+08	1.82F+08	1.53E+08	1.28E+38	1.12E+08	5.02E+07	2.94E+05	1.23E-02	27		PAKITOLE	SCATTER	PROBE	2.02E+38	4.18E+08	4.28E+08	3.76E+08	3.36E+08	2. 28E+08	2.00F+88	2.83E+38	2.13E+08	1.62E+08	1.14E+08	9.33E+07	3.265+67		1.24	50
DATA		ST ZE	2	* .	o «c	10	12	14	91	18	22	54	56	28	36	LHC	0 03.			ST ZE	6	2	t	9	æ	01	17	. 4	18	20	22	54	56	28	;	0 11	0 0 :5
7 #										14-01						,																			v	,	
PASS # 4 DATA	.I NG	(94) 6	6.8001	ALT (KH)	. 115	TENP (C)	11.4		DENDOINT	•	TAS (4/S)	77.5			TOTALS	9.					100 8.6		ALT (KM)	.114		TEMP (C)	11.4	AT 400000	DEMPOINT	:	TAS (M/S)	77.7			TOTALS		
	SOND AVERAGING	PRESIP PROBE	0.000.	O. ALT (KM)	0115		11.4	.0	DEMPOINT	•••			.0	.0		9.	0		R/ H + 3 - H 1)		PR38E P (MB)	•	C. ALT (KM)	0.	0.	O. TEMP (C)	11.4	***	U. DEMPOINI		G. TAS (M/S)	77.7	٠,	•••	TOTAL	0.	0
	20 SES OND AVERAGING 19157100* (NUMBER/M**3-M)		404 0.	O. ALT				• 0	0. DEMOIL			0.				•	0	9157120*	(NUMBER/ N##3 - M4)	PRESIP		. 0		.0	0.	O. TEMP	1835 0. 11.4	• • •	2725 0 UEMPOINI		3320 0. TAS (M/S)	.0	٠,	4211 0.	•	0.	0
	10 JUL 78 20 SE3 OND AVERAGING VAL, START 14 191571000* TSTRIEUTIONS (NUMBER/ M**3-MM)	PRECIP PROBE	.,	O. ALT	•			• 0	0. DEMOIL	•		0.			• • •	•	0	JAL STAPT:*19:57:20*	ISTRIBUTIONS (NUMBER/M**3-M1) TYPE: RAIN	PRESIP	(MU) PR38E	. 0		.0	0.	O. TEMP		• • •	O. DEMPOIN			3617 0.	٠,		•	0. 0.	
AFML MARINE LAYER STUDY 9Y AFGL PASS #	10 JUL 78 RVAL START IN 1915 DISTRIBUTIONS (N	SIZE PRECIP	.,	0. 647 0. ALT	•	1538 0	1835 0.	0. 2132 0.	0. 2429 0. DEMPOLI	•	3320 0.	0. 3617 0.	0. 3914		6. 4508 6.	•			SIZE 0	CLOUD SIZE PRESIP	(MU) PR38E	.0 +0+	0. 647 0.	946	0. 1241 0.	O. TEMP	1835 0.	9. 2132 0.	0. 2429 U. UEMPOIN	3034	3320 0.	0. 3617 0.	0. 3914 0.	4211	4268	0. 0.	0
	JUL 78 START # 1915 RIEUTIONS (N	CLOUD SIZE PRESIP PRCBE (MU) PROBE	23 0. 404 0.	43 0. 647 0. ALT	944 0.	102 0. 1538 0.	122 0. 1835 0.	142 6. 2132 0.	161 0. 2429 0. DEMPOI	27.26 0.	221 0. 3320 0.	241 0. 3617 0.	260 0. 3914	286 6. 4211	6. 4508 6.	•	0		PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CLOUD SIZE PRESIP	PROBE (MU) PROBE	.0 +0+	43 0. 647 0.	62 0. 944 0.	82 0. 1241 0.	102 G. 1538 G. TEMP	122 0. 1835 0.	142 0. 2132 0.	0. 2429 U. UEMPOIN	201 0. 1022 0.	221 0. 3320 0.	241 0. 3617 0.	260 0. 3914 0.	0. 4211	4268	13 0. 0. 0.	0 0 . 22

GING	P (MB)		ALT (KM)	.114	100 000	LEAP CO.	11.5	DEMPOINT		TAS (M/S)	77.5			TOTAL				P (MB)		ALT (KM)		TEMP (C)	11.4	DE NO OI NT	•	TAS IN/SI	78.0			TOTAL	
20 SECOND AVERAGING 19100* IUMBER/H**3-HY)	PRESTP PROBE	0.	.0		•••	•	• •	.0	•••			0.		••	.0	•	H**3-181)	PROTE	.0	•	• • •		•	::							
20 SE3	SIZE	404	249	776	1541	1538	21.32	5459	2726	3320	3617	3914	4211	4508			19159120*	SIZE (MU)	404	249	1241	1538	1835	2429	27.26	3320	3617	3914	4211		
IGHT E78-23 ON 10 JUL78 20 SECOND AVE Introval Start: 19159:100* Particle Size Districutions (Number/m*3-my Type: Rain	CL 0UD PR CBE	0.	.0	.0	•••		•••		•	• •		0.			0.		INTERVAL START#* 19159120* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CLOUD	.0	•			•				; ;				
INTERVISION SIZE DI	SI ZE (MU)	23	43	62	85	102	145	161	181	221	241	566	280	360			INTERV SIZE DI	ST ZE (MU)	23	2,0	82	102	122	161	181	221	241	260	300		A
FLIGHT E78-23 ON INTER PARTICLE SIZE	SCATTER	4.78E+07	6.73E+07	5.44E+07	5.08E+C7	5.43E+07	2.95E+07	3.84E+07	4.96E+07	5.156+37	6.15E+07	7.96E+07	4.18E+07	•	5.08E-03	54	PARTICLE	SCATTER	1.94E+07	3.58E+07	1.88E+07	1.236+07	5.84E+06	7.05E+06	1.41E+07	1.235+07	2.35E+06	1.76E+06			
	ST ZE	2	3	9	•	10	14	16	18	25	24	92	28	30	LWC	MED 9		SIZE	~	31	0 00	10	15	16	18	02	24	92	3.8		
ING ING	P (HB)	1009.2	ALT (KM)	.109		TEMP (C)	11.4	DEWPOTNT	•	137 57 572	78.0				TOTALS			(HB) 4		ALT (KM)	.115	TENP (C)	11.4	DEMONTAL			77.6			TOTALS	
20 SECOND AVERAGING 8 120* IUMBER M**3-MM)	PRESTP PRSSE	•					•	•						.,			/H++3-H1)	PRESTP PRSBE				•			::						
20 SE (9158120*	SIZE	404	249	446	1541	1538	1835	2429	2726	3023	5320	3914	4211	4508			19:58:40*	SIZE	101	249	116	1538	1635	2132	2726	3023	3320	3914	4211	4568	
IGHT E78-23 ON 10 JUL 78 20 SECOND AVER INTERVAL STATT* 1958/20* PARTICLE SIZE DISSILEUTIONS (NUMBER/M***-MM)	CLCUD		•			.,		•	: :					.0			INTERVAL STARTI#19158140* Size distributions (number/m##3-my) Type: Rath	CL 0U0 PR CBE	. 0								•			•	
INTERV SIZE DI	SIZE		37	200	85	102	122	741	181	201	221	260	280	300			INTER	SI ZE	23	43	62	201	122	145	181	201	222	260	280	300	
FLIGHT E78-23 ON INTER PARTICLE SIZE	SCATTER PROBE		1.55E+U8	2 40 5 40 8	2.99E+08	2,595+08	2.57E+08	1.996+18	2.525.08	2.43E+09	2.45E+08	2.54E+UB	9.396+07	9.		23	PARTICLE	SCATTER PROBE	1.045+08	2.03E+08	2.21E+08	2.32E+08	1.87E+08	1.416+08	2.13E+08	1.88E+08	2.27E+38	2.48F+08	1.12E+08		
	SIZE		ν.	, ,	0 00	10	15	*	2 4	20	25	24	28	30		4500		S1 ZE	•		9		15	14	18	50	22	26	28	30	

CTMG .	P (HB)	1008.9	ALT (KH)	.111	TEMP (C)	11.6	DEMONTAL	0.		TAS (H/S)	6.11		*****	O.	•			-		1008.3		ALT (KH)	.116	TEMP (C)	11.5		DEMPOINT	0.	197 87 974	77.0				TOTALS
20 SECOND AVERAGING 0120* UMBER/ NASS-NAS	PRESTP PROBE	0.	••		0.	.0		-		.0		::		0.	-		WHEE3-141)		PRESIP	PROBE	.0	.0			0.	.0			•				.0	
20 SE CNUMBER	SIZE	101	249	1241	1538	1835	2132	2726	3023	3320	3617	4211	8057			20100140	S (NUMBER		SIZE	CHO	104	647	346	1538	1835	21.32	5429	2726	3063	3617	3914	4211	4508	-
ISHT E78-23 ON 10 JUL 78 20 SECONG AVES INTER-AL START#2 0100120* DARTICLE SIZE DISSTRUUTIONS (NUMBER/WWWS-WH) TYPE: RAIN	CL 000 PR 08E	0.	0.	•	.0	•	•		::	• 0	•		.0	.0	0	THIF VAL START PERO EDGE LOS	SIZE DISTRIBUTIONS (NUMBER/ N##3-10)	TYPE RAIN	CLOUD	PROBE	.0	.0				.0	•	•		• •			.0	
INTERV INTERV SIZE DI	St ZE	23	43	62	102	122	145	181	201	221	241	280	300	-	1	TNTFP	SIZE DI	-	SIZE	OH.	23	43	29	1.02	122	145	161	181	201	241	260	280	300	-
FLISHT E78-23 ON "10 JUL 78 INTER JAL START! PARTICLE SIZE DISTAIRUTION TYPE: RAIN	SCATTER PROBE	1.12E+07	2.42E+07	1.36E+07	7.65E+06	1.18E+07	8.86E+06	2. 15F+06	7.07E+06	1.77E+06	5.8 3E+05		0.	2.21E-04	16		PARTICLE		SCATTER	PROBE	1.84E+07	3.13E+07	2.07E+07	9-465+06	1.24E+07	7.74E+06	7.15E+06	1.01E+07	5.38E+Ub	1.205+06	5.996+35	0.	0.	
	ST ZE	2	t	so ex	10	12	14		50	22	35	28	30	LWC	MED D				SI ZE	9	. 2	,	۰ م		12	14	16	18	32	34	75	28	30	
	6	,	î	.115	3	11.5	,		:	(\$/	78.2			TOTALS	6	+				P (MB)		KH	.113	13	11.6		1	0.		153	1.0			TOTALS
ING .	9 (#8)	1008.4	ALT (KM)	•	TEND IC	-	00110	DEMOTIN		TAS (M/S)										4		ALT (KH)	•	TCND (C)	-		DEMPOINT			TAS (M/S)				
COMD AVERAGING	PRESIP PROBE	1008	D. ALT (K	•	TEND	.0	.0	i. DEMPO		TAS				9.	•		/H+#3-M)			PR38E P	.0	0. ALT (10.0		•	G. DENPOIN	••	.0		• • • • • • • • • • • • • • • • • • • •	•		
20 SE3 OND A VERAGING 9159140* (NUMBER/N**3-NN)			647 0. ALT (K	•			2132 6.	•	3023 6.	O. TAS	• 0 •		0.	9.	9		(NUMBER/ H**3-M)		PRESIP		.0	O. ALT	.,	1241 0.			0.	••		•		4211 0.	4508 0.	
10 JUL 78 20 SESOMO AVERAGING TAL START#19159140* TYPE ATIN (NUMBER/M**3-191)	SIZE PRESIP (MU) PR36E			•			:	•	0. 3023 0.	O. TAS	3617 0.		4508 0.	.0	9	TO THE PARTY OF TH	ISTRIEUTIONS (NUMBER/M*3-M)	TYPE : RAIN	PRESIP	(NU) PR3BE	.0	O. ALT	.,	1241 0.			0.	••		3320 0.		0. 3914 0.	4508 0.	
10 JUL 78 RVAL START#1915 DISTRIBUTIONS (N	SIZE PRESIP (MU) PR36E	304		0 946	1578 0	1935 0.	0. 2132 0.	2235 0	201 0. 3023 0.	G. 3320 0. TAS	3617 0.	0. 4211	0. 4508 0.	0	9		v	TYPE & RAIN	SIZE PRESIP	PROBE (NU) PROBE	0. 404 0.	O. ALT	0. 944 0.	1241 0.	1835	0. 2132 0.	0. 2429 0.	0. 2726 0.	0. 3023 0.	3320 0.	361/	2 An n. 4211 n.		
FLIGHT E78-23 ON 10 JUL 78 20 SESOND AVERAGING INTERVAL STARTF19159140* PARTICLE SIZE DISTREUITONS (NUMBER/M**3-M*)	CLOUD SIZE PRESIP	304	43 D. 647 D.	62 0. 944 0.	1578 0	122 6. 1835 0.	142 0. 2132 0.	161 0. 2429 0.		221 G. 3320 0. TAS	12E+05 241 0. 3617 0.	0. 4211	300 0. +508 0.	10 40 - 10 0 · 10 · 10 · 10 · 10 · 10 · 10 ·	19 0	A CONTRACTOR OF THE PARTY OF TH	PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M)	TYPE & RAIN	SIZE CLOUD SIZE PRESIP	PROBE (NU) PROBE	23 0. 404 0.	43 0. 647 0. ALT	62 0. 944 0.	1241 0.	132 0. 1835 0.	142 0. 2132 0.	161 0. 2429 0.	181 0. 2726 0.	0. 3023 0.	221 0. 3320 0.	361/	•		

GING	P (HB)	1308.2	ALT (KM)	.117		TEMP (C)	11.6	Tu 100020	DEMPOINT	•	TAS (M/S)	78.9			TOTALS	.0					1008.3		ALT (KM)		TEMP (C)	11.6	DEMPOTAT	0.	,	TAS (4/S)	78.3			TOTALS	•
20 SECOND AVERAGING 11440* IUMBER/M**3-M*)	PRESTP PR38E			.,	.0	.,	•	• •	•		.9	.0	•	: :		.,			R/ H**3-141)	PRESID	PROBE				.0	•							•		
20 S DF01F40 CNUMBE	STZE (MU)	404	647	116	1541	1538	1835	24.30	2726	3023	3320	3617	3914	4611					CNUMBE	SIZE	(MD)	404	190	1241	1538	1835	2629	2726	3023	3320	3617	3914	4211		
IGHT E79-23 ON 10 JUL78 20 SECOND ANGI Inter-All Stabfe-201011640* Particle Size Dispredutons (Number/M***-HM)	CL OUD PR 08E	. 0				•		•			.0			• • •			6	#000CO. AC #0 TO AT 2 INU COTAT	PARTICLE SIZE DISTRICUTIONS (NUMBER/ H**3-144) TYPE: RAIN	Cr cno	PRCBE		•		0.	•			••	.,		•	•		
INTE SIZE	SIZE (MU)	23	43	62	82	102	122	1 64	181	201	221	241	260	3.56	3			TNT	SIZE	SI ZE	S .	23	55	82	102	122	161	181	261	221	241	260	300		
FLIGHT E79-23 ON INTER PARTICLE SIZE DI	SCATTER	1.16F+67	1.746+07	1.97E+07	1.51E+07	1.395+07	1.916.07	1. 405 417	1.275407	3.48E+06	2.90 E+05	5.82E+35	5.87E+05	• •	;	3.41E-04	16		PARTICLE	SCATTER	PROSE	3.15E+07	5.4 3E+07	3.84E+07	4.48E+07	4.18E+07	3.30E+07	2. 32E+07	1.16E+07	5.21E+06	1.16E+06		•		7.555-04
	ST ZE	~		9	•	10	12	. 4		50	22	54	26	30	;	LWC	460 0			SI ZE	60.5	2	y t	80	10	15	16	18	50	25	54	56	30		- NO
ING	9	1008.4	ALT (KN)	.116		TENP (C)	11.6	טבוסט ב אב			TAS (4/S)	77.8			. TOTALS		6				1008.3		ALT (KM)	•	TEMP (C)	11.6	DEMPOTAT	9.		TAS (M/S)	77.9			TOTALS	
OND AVERAG	PRESTP PR36E		:	.0			.0	•••	•		0.	.,				9.	•		H43	91 C399	R09E				.3				0.	.0		•			
0. 5		C	-																*	9	•	0	-												
20 SES 801800* (NUMBER/	ST ZE	404	149	**6	1541	1538	1835	27.30	27.26	3023	3320	3617	3914	1124	2000				(NUMBER/ ME		G (NE)	0 101	249	1241	1538	1835	5429	2726	3023	3320	3617	3914	4211		
10 JUL 78 20 SES FAL STARTIGEOUTEDOF ISTRIBUTIONS (NUMBER/I	CL CUD SIZE PROBE (MU)	. 101	0.	446 .0	0. 1241	0. 1538				0. 3023		0. 3617	.,	1124			•	200 000 000 000 000 000 000 000 000 000	ISTRIBUTIONS (NUMBER/ME		(40)		149	7	C. 1538		2613			0. 3320	0. 3617	916	6. 4211		-
-23 ON 10 JUL 78 20 SE3 INTERVAL START (*2010100)* SIZE DISTRIBUTIONS (NUMBER/I TYPE: RAIN			43 0.		.0	:		•	•	•••		.,	•		:		9	***************************************	60	SIZE	PRCBE (MU)	.,	•	7			•			.0	•	• 0	280 6. 4211		-
FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING INTERVAL STATT**20*01**00** PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CL CUD PROBE		43 0.	62 0.	62 0.	102 0.	122 0.	•	161 0.	201	221 0.	.,	•	•	:	1.286-64 0.	14	TO THE PERSON NAMED IN COLUMN	PARTICLE SIZE DISTRIBUTIONS (NUMBER) ME	CLOUD SIZE	(HU) PRCBE (HU)	23 C.	•	82 0. 1	102 C.	••	161	191 0.	201 0.	221 0.	98E+05 241 0.	• 0	•		2.025-04

	3.146	P (HB)		119		TEMP (C)	111.	DEMPOINT	0.	TAS (M/S)	78.4			TOTAL	4.55E-U			•	1308.6		ALT (KM)	.114		TEAP (C)	0.11	DEMPOTNT	0.		TAS (M/S)	1.8.			TOTAL	•
1 FGL	2G SECONG AVERAGING 3:00* UMBER/M**3-M)	PRESTP PR38E	:.			•	•••		•		•	•				/H**3-Pf)		PRESTP	78.06	• • •		•	.0	•			0.	.0	•••	; .		::		
ruoy 8y	20 SE 0103100*	SIZE	101	776	1241	1538	2132	5459	2726	3320	3617	5914	4568			103120* (NUMBER		SIZE		+0+	249	116	1241	1558	2132	2429	2726	3023	3320	3017	4211	4508		
AFML MARINE LAYER STUDY BY AFGL	FLIGHT E78-23 ON '10 JUL 76 20 SECONO AVE INTERAL START+20103100* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**5-PM	CL 0U0 PR 0BE	0.	1.045+04		•	•••		•		•	•	::		4.58E-U5 56	INTERVAL STARTI*20103120* Interval Starti*20108 (WUMBER/M**3-MM)	TYPE: RAIN	כרכהם	14,08			•	•	•		.0	.0	.,	•	• • •	• •			
AFUL HAR	INTER	SI ZE	23	25	85	102	145	161	181	221	241	286	300			INTER V	-	SIZE	504	23	43	62	85	201	142	161	181	201	221	260	289	300		
	FLIGHT E78 PARTICLE	SCATTER PROBE	9.39E+07	1.08F+08	8.636+07	7.81E+07	2.45E+07	1.52E+07	6.41E+06	0.	•	• •			3.01E=04	PARTICLE		SCATTER	380 1	1.06E+0*	1.91E+08	1.26E+08	8.84E+07	5.58E+07	4.25F+07	2.62E+07	1.28E+07	1.75E+06	1.75E+06	0.00 E+0.00		.0		13
DATA		St ZE (*U)	~ 4	• •		10	1 1	16	18	22	54	200	3.0		4500			SIZE	5	2	3	· ·	0	200	1 1	16	18	50	25	36	28	30		0 0 3 7
-			_	_			_																									Ŧ		
INSS # 4	941	P (148)		ALI (KF)	•	TEMP (C)	11.8	DE MP OT NT	•	TAS (M/S)	77.7			TOTALS	•				1008.5		ALT (KM)	.115	-	TEMP (C)	11.0	DEMPOTAT	9.		TAS (H/S)	11.1			TOTALS	
_	COND AVERAGING	PRESTP P (MB)		ALI (KF)	;:	G. TEMP (C)	11.8	C. DEMPOTINT	.0	C. TAS (M/S)	6. 77.7	••				(N4+3-6***)			1008.5	• 0	0. ALT (KM)	6115	• 0	G. TEND (C)	11.0	C. DEMPOTINT	9.	.0	TAS					9 0 0
_	20 SECOND AVERAGING 102120* (NUMBER/W**3-M)		*0 *0*		::	O. TEN	1835 0. 11.8	.,	• • •	::			4511 C.		•	0 13214 0* (NIUMB EY M** 3 - MM)		d1:36d		•	O. ALT	.,	1241 6.	O. TEND		2429 C. DEMPOTINT	•	.0	0. TAS	•		4508		•
_	10 JUL 76 26 SECOND AVERAGING AL STATTY-SO 162120* STSTREUTIONS (NUMBER/M**3-M*) TPE: RAIN	PRESTP	:		::	O. TEN	• •	2429 0.	• • •	::					•	AAL START #20 #22#40* STREEUTONS (HUMBER)##3-HM)	TYPE: RAIN	d1:36d	(MU) PRIHE	•	O. ALT	.,	1241 6.	O. TEND			2726 0.	.0	3320 0. TAS	3617 0.	3914			•
AFML MARINE LAYER STUDY BY AFGL 1/4SS # 1	10 JUL 76 VAL START 1*20 10 JISTRIBUTIONS (N	SIZE PRESIP	.0 404	0. 647 U. ALI	1241 0.	0. 1538 0. TEM	1835 U.	6. 2429 0.	27.26 0.	::	6. 3617 C.	3914				INTERAL STAFFI*20102140* SIZE DISTRIBUTIONS (MUMBER)##3-MM	TYPE: RAIN	SIZE PPETIP	PROBE (MU) PROBE	•	0. 647 0. ALT	.0 446	0. 1241 6.	C. 1538 0. TEMP	1835 0.	26.29	G. 2726 C.	0. 3023 0.	6. 3320 0. TAS	3617 0.	3914	4568		•
_	FLIGHT E78-23 ON 16 JUL 76 20 SECOND AVERAGING INTERVAL STARTISCO 102820* PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**3-M*)	CLOUD SIZE PRESIP PPCEE (MU) PRIBE	23 0. 404 C.	0. 647 U. ALI	82 0. 1241 0.	102 0. 1538 0. TEM	1835 0.	161 6. 2429 0.	27.26 0.	221 0. 3320 0.	241 6. 3617 6.	266 6. 3914	0- 4511			INTERVAL STARTICO 10214 0* PARTICLE STR DISTRIBUTIONS (MUMBER) W* 3 - MM)	TYPE: RAIN	SIZE CLOUD SIZE PRESTP	PROBE (MU) PROBE	23 0. 404 0.	43 0. 647 0. ALT	.0 944 6.0	82 6. 1241 6.	102 C. 1538 O. TEMP	122 0. 1835 0.	2629	181 0. 2726 0.	201 0. 3023 0.	221 G. 3320 G. TAS	3617 0.	266 0. 3914	10.		•

	146	P (MB)		ALT (KM)	101.	TEMP (C)	11.5		DEMPOINT	•	137 77 312	LAS CASS	6.30			TOTALS		0			9999.5		ALT (KM)	. 190		(C) ANAL	0.01	DEMPOTAT	6.		TAS (4/S)	69.7				TOTALS	:	
1 FGL	20 SE3 OND AVERAGING 4120* IUMBER/ M**3 - MM)	PRE31P PR38E			• •		.0		•	٠.		•	•				.9		(H4 - 2 - 4H)		PROBE					•	•				0.							
46 YOU	20 SE	SIZE	101	249	1244	1538	1835	2132	5459	2726	3023	3320	3517	4211	4508				CNUMBER		ST ZE	404	249	116	1541	1538	1835	26.12	2726	3023	3320	3617	3914	4211	4508			
AFWL MARINE LAYER STUDY 3Y 4FGL	ISHT E78-23 ON 10 JUL 78 20 SESOND ANSI INTERALL STATE*20164120* PARTICLE SIZE DISTRIEUTIONS (NUMBER/H**3-MM)	CLOUD	.0	.0	•			.0	:	•		•	•••	•	•		.0	0	INTERVAL STARTIF20134140* PARTICLE SIZE DISTRIBUTIONS (NUMBER MFF3-MM)		CLCUD	.0	.0	0.	.0	.,		•										•
AFHL MA	INTER SIZE D	SI ZE	23	43	62	102	122	145	161	181	261	221	241	200	20.2	200			INTE		SIZE	23	43	95	82	102	122	761	101	201	224	241	260	280	300	3		
	FLISHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	8.16E+06	1.52E+07	1.43E+07	4.975+116	4.84E+16	3.28E+46	3.26E+06	1.60E+06	1.63E+06	0.	0.	1.05E+05	•	•	9.25E-15	16	PARTICLE		SCATTER PROBE	8.03E+07	1.52E+08	1.29E+08	8.44E+07	4.55E+07	4.15E+07	2.54E+07	2042424	1043610	3. 555.06	2 565406	2 5 5 5 5 6 6 6	4 035406	1.065+05	;	7.93	
DATA		ST 2E	2	t	• •	0 -	15	1 1	16	18	20	22	54	92	97	200	24	ME 0 9			SY ZE	~	1	9	60	10	15	31	12	50	22	25.	30	200	200	3	2 1	4500
4								,		0		_	9				TOTALS				H3)		æ	131	•	0	8.			0.		_	-					2
PASS # 4 DATA	ING	6 (48)	1008.7	ALT (KH)	.113	-	TEND (C)	•••	DENPOTAT	0.		TAS (M/S)	78.6					;			P (M9)		ALT CKM)			TEMP (C)	11.8		DEMPOINT			TAS (M/S)	79.1			TOTAL	.0	OF PASS
	SOND AVERAGING	PRESTP P (48)	1008.7	G. ALT (KM)			G. IERP IC		G. DENPOTAT		.0	C. TAS (4/5		.0	••	.0	101	;	(M-£3-M)		PRESIP PROBE P (0. ALT C.					••	DEMPOIN			TAS		• • •	•	.0	0.	FAN OF PASS
	26 SEJOND AVERAGING)103146+ (NUMBER/W**3-M)			647 0. ALT (KM)	.,	•		•			.0		.0			4508 0.	101		(NUMBER/ W**7-M)			70 404						.0	G. DEMPOIN		.,	TAS	• 0				.0	
	15 JUL 76 26 SE3OND AVERAGING MAL STAPTIE2 DIG3140* ISTREDITONS (NUMMEP/M**3-MM)	PRESTP			.0 176	1241 0.		•	2429 0.		3623 6.	.,	3617 6.			.0			VAL STARTI*20154100* VAL STARTI*20164100* TANG. DATU	The Kalk	PRESIP PROBE	C			1241 0		1835 0.	.0	G. DEMPOIN	•	.,	3320 C. TAS	3617 0.	3914	4211	.0	0. 0.	
	15 JUL 78 2VAL START 1*2016 DISTRIBUTIONS (N	SIZE PRESIP	9 191	647 0	.0 176	1241 0.	1538 0.	2112 6	2429 0.	0. 2726 0.	50.53 6.	3320 6.	6. 3617 6.	6. 3914	4211	0. 4508 0.		,	INTERVAL STARTI*20154100* Size distreditons (number/m*;-m)	THE KAIN	SIZE PRESIP (MU) PROBE	70 404		10 110	1241	1538 0.	1835 0.	0. 2132 0.	0. 2429 G. DEMPOIN	0. 2726 C.	0. 3623 C.	0. 3320 C. TAS	3617 0.	0. 3914	4211	0. 4508 0.	0. 0.	
AFML MARINE LAYER STUDY 3Y AFGL	FLISHT F78-23 ON 10 JUL 76 FG SECOND AVERAGING PARTICLE SIZE DISTRIBUTIONS (NUMBER/W*3-M) TYPE: RAIN	CLOUC SIZE PRESIP	9 191	60 647 0	62 0. 944 0.	82 0. 1241 0.	102 0. 1538 0.	2112 6	161 0. 2429 0.	181 6. 2726 0.	231 6. 3623 6.	221 0. 3320 0.	241 6. 3617 6.	6. 3914	9. 4211	0. 4508 0.	•	,	INTERVAL START 1*20154100* PARTICLE SIZE DISTRUITONS (NUMBER/M**;-M)	THE KAIN	CLOUD SIZE PRESIP PROBE (MU) PROBE	70 404	77 77 0	20 178	1241 0	102 0. 1538 0.	122 0. 1835 0.	142 0. 2132 0.	161 G. 2429 G. DEMPOIN	181 0. 2726 C.	0. 3623 C.	221 0. 3320 C. TAS	3617 0.	0. 3914	0. 4211	0. 4508 0.	4.912-05 0. 0.	0

16 ING	P (#8)	7.6367	ALT (KM)		TEMP (C)	11.3	DEMPOINT		TAS (M/S)	77.8		TOTALS	.0				P (MR)	1004.9	ALT (KM)	. 145	TENP (C)	11.3	100010	B. O. TO THE		TAS (4/S)	79.1			TOTALS
24 SECOND AVERAGING 7100* IUMBER/H**3-M1)	PRESTP	.,	• •	0.0	•	• • •	. 0			•	: :		.0			· H**3-M1)	PRESTP		•	•		•	•				•	::		
2J SE Q:C7:339 CNUMBES	SIZE	707	249	1541	1538	2132	5459	2726	3320	3617	4211	4508				CNUMBER	STZE (MU)	101	249	776	1538	1835	2132	27.26	3023	3320	3617	4211	4508	
IGHT E78-23 ON 10 JUL 76 2J SESOND AVER INTENAL STAFF*20.07109* PARTICLE SIZE DISTREUTIONS (NUMBER/M**:-M)	CL 0UD PR CBE	•	•	• •	•	•••		•	.0	•		9.	.0	•		INTERVAL STARTIF20:07:20* SIZE DISTRIBUTIONS (NUMBER/M**3-MM)	 CL CUC PR 08 E			•		•	•		.0	•	•			
INTER	SI ZE	23	2 4	82	102	145	161	181	221	241	280	300					SI ZE	23	F.3	62	102	122	161	181	201	221	250	286	300	
FLIGHT E78-23 ON INTER PARTICLE SIZE	PROBE	6.78E+07	4-12F+07	2.88E+07	1.88E+07	1.75E+06	6.46E+06	1.75E+06	1.79€+06	2.34E+06	6.01E+05	• 6	2.08E-04	11		PARTICLE	SCATTER	2.71E+67	4.096+07	2.54E+07	5.75E+06	5.16E+06	5.755+05	0.	1.14E+06	•	•••		•	
	SI ZE	2	t w	00	10	17	16	18	22	26	28	30	LWC	0 0 0			ST ZE (MU)	2	3.	o «	10	12	1 1	18	20	22	26	58	30	
									_										_		_		-					i.		
91 NG	P (HR)		ALT (KM)		TEMP (C)	9.11	DEMPOINT	•	TAS (M/S)	90.0		TOTALS		•			P (MB)	1005,3	ALT (KN)	.141	TEMP (C)	11.6	DEMONTAL	9.		TAS (H/S)	1.,,			TOTALS
SOND AVERAGING	PRESIP PROBE P (MR)		O. ALT (KM)		TENP	9.11			TAS	0.00		D. TOTALS	-			2/ H==3-H/)	PRESIP P (MB)	1005.3	G. ALT (KH)	.141	G. TEMP (C)	11.6	DEMONTAL			TAS			0.	
20 SES OND AVERAGING 0106 20# (NUMBER/ W** 3 - MM)			ALT		O. TEMP				O. TAS			4508 G. TOTALS	•			(NUMBER/ M**3 - M1)			O. ALT	1241 6. 141	• • •	1835 0. 11.6	•	.0		0. TAS	•	4211 0.		TOTALS
10 JUL 78 20 SE3 OND A VERÁCING TAL STARTIF20 10 6120* TYPE: RAIN	PROJE PROBE		O. ALT	1241 .0.	O. TEMP	• •	2429 0.	•	O. TAS	•		•	.0		•	AL STARTI-20196140* STREEUTIONS (NUMBER/M**3-M)	PRESIP		O. ALT	•	1538 6.		•	2726 0.		3320 0. TAS	•	4211	4508 0.	TOTALS
10 JUL 78 VAL START:#2010 STRIEUTIONS (N	SIZE PRESIP		0. 647 0. ALT	1241 .0.	0. 1538 0. TEMP	0. 2132 C.	0. 2429 0.	2726 0.	0. 3320 0. TAS	3617 6.	0. 4211	.0 629	.0		•	INTERVAL STAFF 1*20 10614 0* SIZE DISTRIEUTONS (NUMBER/ M**3-M)	SIZE PRESIP	404	0. 647 0. ALT	1244 0	1538 6.	1835 0.	24.39 0	0. 2726 0.	0. 3023 6.	0. 3320 0. TAS	3617 0.	4211	0. 4508 0.	TOTALS
FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING DARTICLE SIZE DISTRIBUTIONS (NUMBER/W**3-MM)	CLOUD SIZE PRE3TP PRC8E (MU) PR36E	23 0. 404 0.	0. 647 0. ALT	82 0. 1241 .0.	102 0. 1538 0. TEMP	0. 2132 C.	161 0. 2429 0.	2726 0.	221 0. 3320 0. TAS	0. 3617 0.	280 0. 4211	.0 629	.0 .0 .9			PARTICLE SIZE DISTREUTIONS (NUMBER/ M**3-M*)	CLOUC SIZE PRESIP PROBE (MU) PROBE	404	43 0. 647 0. ALT	944 0.	162 0. 1538 6.	122 0. 1835 0.	24.39 0	181 0. 2726 0.	201 0. 3023 6.	221 0. 3320 0. TAS	3617 0.	280 0. 4211	0. 4508 0.	TOTALS

0 ING	P (MB)	1005.0	ALT (KN)	1464		TENP (C)	11.2		DEMPOTAT			TAS (M/S)					20101	LUIALS	;							P (HB)	1305.3		ALI KHI	. 141		TENP (C)	11.2		100000	0000			TAS (4/S)	79.1					TOTALS	.0	
20 SECOND AVERAGING 8120* IUMBEV/M**7-MV)	PRESTA										: :												1 H - 8 - H /		PRESIP	PRJEE				.0	.0		.0			•		.0	.0	0.				0		.0	
20 SE 108129*	SIZE		404	770	1241	1538	1835	21 32	5420	2726	3023	2320	1617	3016	4211	1101	4260					0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CAUMBER		SIZE	(UH)		303	140	346	1241	1538	1835	21.20	27.30	2429	62.72	3023	3320	3617	1916		1175	4508			
23 ON 15 JUL 76 20 SESOND AVER INTERVAL STAFFT*20:08429* SIZE OISTRECUTONS (NUMBEO/M***-MM) TYPE: RAIN	CLOUD		•												•	•						INTERVAL START FEOTOBER OF	SIZE DISTRIBUTIONS (NUMBER/H**3-M)		CLOUD	PRCBE			•	.0	.0	.0	0.		•		•	.0	.0	0.	0		•			0.	
INTER	SIZE	:	27	25	82	102	122	142	161	181	201	221	241	260	302	202	3 60				-	INTER	SIZE D		SI ZE	CHU		3:	54	62	82	102	122	14.2	7	101	181	201	221	241	260	200	002	300			
FLIGHT E78-23 ON INTE PARTICLE SIZE	SCATTER PROBE		1.226407	4.7.5416	5.885+05	6.											• •	,,,,,,	00-229·2	•		2 10 14 0 10	PARTICLE		SCATTER	PROBE	, ,,,,,	6.355+06	1.62E+07	4.05E+06	2.89E+06	.0	9.		•	•	• • •	.0	0.	.0			•	.0		4.19E-06	4
	ST ZE	(V 3		· «	16	12	14			200	22	34	26	28	202	20		3 6 7	4:00					SIZE	(UM)	•		*	9	æ	10	12	11	***	97	18	50	22	24	26	200	200	30		O M	0
							_																																								
51 NG	(8)	1005.2		ALT (KF)	.145	17.00.17	101	1110	400000	DEMPOTING			INS CALL	6.11				. TOTALS		G						P (MB)	1005.2		ALT (KR)	.142		TEND (C)	2			DEMPOINT	9.		TAS (M/S)	7	1.0				TOTALS	0.	
COND A VERAGING	PRESTP P (MB)	1005.2		ALI			1631			DENTOTA			I AS					STATCT .	.0	0			/Hee3-H4)		PRETIP		1005.2	.0	C. ALT (KM)	0.		TEMP	10.			O. DEMPOINT	9.	•				.,					
ZO SEJOND AVERAGING 107140* (NUMBER/M**3-M*)				g. ALI						e. DEMPOL			u.	•			4508 6.	. TOTALS	.0			*08 * 0 0 *	(NUMBER/ M**3-M4)		SIZE PRESIP	PROBE		.0	G. ALT		. 0	TEMP		•		O. DEMPOIN					•		4211 0.		:	-	
10 JUL 78 20 SEJOND AVERAGING AL STARTIFZO (27140* STRIEUTIONS (NUMBER/M**3-M) TPEE RAIN	PRESTP		*0*	AL. 9.		1741 0.	1536 0.	1835 6.	2136 0.	2429	2726 0.	30.53 0.	3320 U. IAS	361/ 0.	3914	4211			.0			/AL START: "20 : 08:00"	ESTRIBUTIONS (NUMBER/M**3-M4)	TYPE : RAIN	SIZE	PROBE		.0	G. ALT	0.	1241 0.	TEMP TEMP	1000	1025 0.	2132 0.	2429 0. DEMPOIN		3023	2220	200	3617 0.	3914	4211	4568		-	;
3 ON 10 JUL 78 INTERVAL STARTI-2010 IZE DISTRIBUTIONS (N	SIZE PRESIP		*0*	9. 647 9. AL		1541 0.	1538 0.	1835 6.	0. 2132 0.	יי כאכא ני	0. 2726 0.	30.53 0.	3320 0.	561/ 0.	3914	4211	0. 4508 0.		0.	•		INTERVAL START : "20 : 08:00"	SIZE DISTRIBUTIONS (NUMBER/ M**3-M4)	TYPE: RAIN	CLOUD STZE	(MU) PROBE		*0 +0+	0. 647 C. ALT	0. 944 0.	1241 0.	TEND OF TEND	.0 654	1000 0.	0. 2132 0.	0. 2429 0. DEMPOIN	0. 2726 C.	0. 3023	2200		2017	6. 3914	4211	4568		0	;
FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING INTERVAL STARTF20 62740* PARTICLE SIZE DISSRIGUTIONS (NUMBER/M**3-M) TYPEE REN	CLOUD SIZE PREJIP		.23 0. 404 0.	43 9. 647 9. AL	62 0.	95 0.	102 6. 1536 0.	122 0. 1835 0.	6E+05 142 0. 2132 0.	161 6. 2429 6. 05.01	365-05 181 0. 2726 0.	201 0. 3023 0.	5320 0.	241 6. 361/ 0.	260 0. 3914	0. 4211	300 0. 4508 0.		0. 0.	•			PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M4)	TYPE : RAIN	CLOUD STZE	(MU) PROBE (MU) PROBE		23 0. 404 0.	43 0. 647 0. ALT	62 0. 944 0.	82 n. 1241 n.	TEND TEND	105 00 100 100 100 100 100 100 100 100 1	122 0.	142 0. 2132 0.	92E+05 161 0. 2429 0. DEMPOIN	0. 2726 C.	261 0. 3023	223 0 3220 0		. 241 0.	6. 3914	0. 4211	4568		0	

16 I NG	P (HB) 1005.1	ALT (KM) .143	11.1 DEMPOINT	TAS (M/S) 79.4	0. B	P (HB) 1005.0 ALT (KM)	TAS (M/S) 78.C
20 SE3 OND A VERAGING 914 OF UMBER/ H**3 - HY)	PRESTP PRSBE		::::		G	PRESIP PRSBE	
20 SE:	SIZE (MU)	647 944 1241 1538	1835 2132 2429 2726	3320 3320 3617 3914 4211	110 10 0°	SIZE (MU) 404 647 944 1241	1538 2435 2429 2729 3023 3320 3517 4511 4511
-23 ON 10 JUL 78 20 SE; OND A 4EF INTERVAL STAFFT (1094 0* 10 S INUMBER* (1985 1995 1995 1995 1995 1995 1995 1995	CL OUD PR CEE	••••	••••		INTERVAL STARTI-ZOLLDGOO* SIZE DISTREUITONS (NUMBER/ M**3-M*)	PRCBE	
INTERV SIZE DI	SI ZE (MU)	43 62 82 162	161	201 221 241 260 280	INTER	SIZE (HU) 23 43 62 62	100 140 140 140 140 140 140 140 140 140
FLIGHT E78-23	SCATTER PROBE 7.48E+06	1.90E+07 6.90E+06 3.46E+06 5.75E+05	5.78E+05		7.26E-06 7	5CATTER PROBE 6.47E+16 1.52E+17 5.84E+16 4.10E+16	5.93E-05 5.93E-05 1.17E+06 0.00 0.00
	31 ZE (**U)	* 4 & 5 £	7798	382450	JE DO JAED D	ST ZE (AU)	201100000000000000000000000000000000000
100	P (MB)	ALT (KM) .143	11.1 DEWPOTNT	TAS (4/5)	TOTALS 0.0	P (MB) 1005.1 ALT (KM)	TEMP (C) 11.1 DEMPOINT .C TAS (M/S) T9.4
AVERAG	e #						
ONO	PRECIP PROBE				0 · 0 · 0 · 0 · 0 · 0 · 0 · 0 · 0 · 0 ·	PRETIP PROBE 0.00.00.00.00.00.00.00.00.00.00.00.00.0	
20 SECOND AVERAGING 109101* (NUMBER/M**3-MM)	4 0	647 944 1241 1533		300000	4508 0. 0. 0 1109120*	SIZE PPETIP (MU) PR38E 404 0. 647 0. 1241 0.	
10 JUL 78 20 SECOND AL START #20109100* STRIEUTIONS (NUMBER/M#* YPE: RAIN	1000 SIZE P	944 0	1835 1835 2429 2429 2726	3372 33023 33023 3317 3517 64211	0. 0 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.		1538 1635 2435 2429 2429 2726 3320 3320 3414 4211 4511
ON 16 JUL 78 NTERVAL START # 2010 ZE DISTRIBUTIONS (N	CLCUD SIZE PROBE (MU)	944 0	1835 0. 2132 0. 2429 0. 2429	7.725 0 3320 0 3320 0 3414 0 0 3914	30C 0. 4508 0. 0. 0 INTERVAL START#20109120* SIZE DISTRIBUTIONS (NUMBERY M**3-	2000 SIZE (MU) 404 647 944	1538 0. 1635 0. 27429 0. 27429 0. 33023 0. 33020 0. 33014 0. 4421
ON 16 JUL 78 NTERVAL START # 2010 ZE DISTRIBUTIONS (N	SIZE CLCUD SIZE P (MU) PROBE (MU) 23 0. 464 0	7 43 0. 647 0 6 62 0. 944 0 6 82 0. 1241 0	122 0. 1835 0 142 0. 2132 0 161 0. 2429 0	0 . 1127, 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30C INTE	CLOUD SIZE (MU) PROBE (MU) C. 667 G. 647 G. 1241	162 0. 1536 142 0. 2435 161 0. 2429 231 0. 2429 241 0. 3323 241 0. 3514 260 0. 4211 360 0. 4211

GING	P (MB)		ALT (KH)	.144	107 07.52	TEMP (C)	11.1	DEMPOTAT			TAS (M/S)	78.8			TOTALS		0		P (#B)		ALT (KM)	244.	TENP (C)	11.1		DEMPOINT		TAS (M/S)	78.8			TOTALS	
20 SECOND AVERAGING 1100* IUMBER/M**3-M1)	PRESTP	.,	0.		•	• • •					.0	.0	•			.0	•	27 H** 3-PM)	PRESIP	.0	•	•		.0		•	::	0.	0.	.0	•••	:	.0
20 SE 0111100	SIZE	101	249	116	1241	1538	1635	2613	2726	3023	3320	3617	3914	4508	•			111120 (NUMBE	SI ZE	101	647	1241	1538	1835	2132	2429	3023	3320	3617	3914	4211	000	
IGHT E78-33 ON 10 JUL 78 20 SECOND AWER INTERAL STARTI*2 0111100* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M*5-MM) TYPE: RAIN	CLOUD	.0	.0	•		•••	•••	•	•	•			•	•			a	INTERVAL STARTI*20:111:20* SIZE DISTRIBUTIONS (NUMBER/M**3-MM)	CLCUD		•	•		.0		•			0.		•	;	.0
-23 ON INTER SIZE D	SIZE	23	43	62	25	102	166	141	1 4	201	221	241	260	300	3			INTER SIZE D	SI ZE	23	43	82	102	152	145	161	201	221	241	260	280	3	
FLIGHT E78-23 ON INTER	PROBE	4.65E+06	8.71E+35	5.80E+06	2.32E+06	•	•	•		• •			•	•	;	3.66E-16	9	PARTICLE	SCATTER	5.81E+06	1.92E+07	4. OFFARE	1.16E+06	• 5	5.83E+05	•			0.	.0	•	•	9.07E-06
	ST ZE	2	t	9	œ :	2.	77	* *	9 4	20	22	54	56	3.6	3	LEC	0 0 3		SI ZE	2		O 00	10	15	1,4	16	200	22	54	52	28	2	Lac
9 I N G	P (MB)		ALT (KM)	.141		TENP (C)	11.2	DE MOOT ME	DEMPOTAL	•	TAS (M/S)				TOTALS		0		P (MB)		ALT (KM)	. 144	TEMP (C)	11.2		DEMPOINT		TAS (4/5)				TOTALS	•
20 SESOND AVERAGING 0120* UMBER M**3-M)	PRESTP PRSBE		.0	.0		•	•	•	•	•		.0	•	•	;	.0	٥	V H**3-H1)	PRESTP PROSE	0.		•		.0	•		•			.0		•	.0
20 SE 110120	SIZE	101	249	446	1241	1538	1835	27.30	6763	3023	3320	3617	3914	4211	900			CNUMBER	SIZE	101	249	***	1538	1835	2132	5429	3023	3320	3617	3914	4211	4208	
01.10											.0	.0	. 0	•	•	• 0		INTERVAL STAFF # 2011014 0* IZE DISTRIBUTIONS (NUMBER/M##3-MM) TYPE: RAIN	CLOUD	0.		•		. 0	.0	•	•			.0	•	•	0.
10 JUL 78 VAL STAPT 19 ISTRIBUTION TYPE: RAIN	CLOUD	.0	.0		0.			5 C	•									NTER DE	SI ZE	23	43	20	162	122	45	161	201	221	241	09	280	3	
3 ON INTERV	STZE CLOUD	0	0	0	82 0.			> c	101	201	221	241	266	280	3			SI	55						-					2	21	2	
FLIGHT E78-23 ON 10 JUL 78 INTERVAL STARTIC PARTICLE SIZE DISTRIBUTION TYPE: RAIN		0	43 0	62 0	92 0	102	122	145		181				280		4.88E-36	,	PARTICLE SI	SCATTER SI		9.28E+06		0.220.0			•				0.			3.53E-06

	SING	P (MB)	ALT (KM)	146		TEMP (C)	11.0	DEMPOINT	0.		TAS (M/S)	•			TOTAL					100 4.8		ALT (KM)	. 145		TEMP (C)	•	DEMPOTNT	•		TAS (4/S)	78.			TOTAL		
1FGL	20 SEDOND AVERAGING 2120* IUMBER/M**3-M9)	PRESIP	•			.0			.,	•		• • •		٥.		•		1 HA & 3 - HA)	PPESIP	PRJFE	.0	0.	.,	.9	•	• •			•		•••	•			• • •	>
TUDY BY	20 SEI 0:12:20*	SIZE (MU)	404	770	1241	1538	1835	5459	2726	3023	3320	3914	4211	4508				20112140* S (NUMBER	SIZE	(MD)	404	249	116	1241	1538	2132	2429	2726	3023	3320	3617	3914	4508			
AFWL MARINE LAYER STUDY BY AFG	ISHT E78-23 ON 10 JUL 78 20 SECOND AVEI INTERALAL STABTT*-20112120* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M) TYPE: RAIN	CLOUD	0.0			0.			.0		•	• •		. 0				INTERVAL START#20112140* PARTICLE SIZE DISTRIBUTIONS (NUMBER/ M**3-M) TYPE: RATN	כר פתם	PRCBE	.0	. 0	.0	.0	. 0	•			• 5	••	•	•	•••			.,
AFWL MAR	-23 ON INTER	SIZE (MU)	23	649	82	102	122	161	181	201	221	241	280	300				INTERN SIZE 01	SIZE	(140)	23	43	62	82	102	162	151	181	201	221	241	260	360			
	FLISHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	5.21E+06	2 925406	1.75E+06	1.73E+06		• • •	.0	9.		•				5.20E-06		PARTICLE	SCATTER	PROBE	5.77E+06	1.80E+07	2.90E+06	3.48E+06	1.74E+06	•			0.	0.	• 0	•		;	6.32E-06	œ
DATA		St ZE	~ ~	,	p &0	10	12	1 1	18	20	22	24	28	30		0 0			37.75	64.0	2	t	9	8	10	27		18	25	22	54	56	e c	,	017	0 0 3
# 2															s		,																	v		0
PASS # 5	9	P (MB)		ALT (KM)	. 142	TENP (C)	11.1	TUTOOLD	9.		TAS (4/S)	7.8.7			TOTALS	.0				0 (MB)	2001	ALT (KM)	. 1+6		TEMP (C)	11.0	111100000	DEMPOINT		TAS (M/S)	77.9			TOTALS	6.	
	SOND AVERAGING	PRESIP PROJEE P (M9)	.0	ALT	.142	n. TEMP (C)	11.1	TO TO SHOULD INT	0.		0. TAS (4/S)		• 0			.0	•	(HH - 2 + HH)	91,000			ALT (KM)	11.		TEMP			UEMPOINI		TAS		• 0	•		•	0
	20 SESOND AVERAGING 111140* (NUMBER/ H**3-M)		.0 404	G. ALT			1835 0. 11.1			. 0	O. TAS	.0		4511 0.				0112100* CNUMBER/H**3-M4)	911300	38184	•			• 0	D. TEMP	. 0	•	DEMPOIN		O. TAS	•				3	0
	16 JUL 78 20 SE;OND AVERAGING AL START#*20 111:40* STRIBUTIONS (NUMBER/ M**3-M) TYPE: RAIN	PRESTP PROBE	.0 404	647 G. ALT	• • • • • • • • • • • • • • • • • • • •	1538 0.	1835	2132 0.		3023 6.	3320 0. TAS	3617 0.	3914			•••	,	AL START#20:12:00* STRIBUTIONS (NUMBEP/W##?-MM) YPDE: DATH	24.15	38184	•	2019		1241 0.	1538 D. TEMP	. 0	•	2726 G. DEMPUL		O. TAS	•			:		0
	10 JUL 78 VAL START ** 20:1 DISTRIBUTIONS (N	SIZE PRESIP (MU) PROBE	.0 404	0. 647 0. ALT	1241	1538	1835 0.	2132 0.	2726 0.	3023 0.	0. 3320 0. TAS	0. 3617 0.	3914	4508		•		INTERVAL START#20:12:00* SIZE DISEUTIONS KNUMBED/H*#: -MM) TYDE: DATA	21.010	CMU) FRIBE	107		170	1241 0.	0. 1538 0. TEMP	0. 1835 0.	0. 2132 U.	2726 G. DEMPUL	2023	O. TAS	3617 0.	9. 3914	0. 4211	.3 8084		
AFHL MARINE LAYER STUDY BY AFGL PASS	FLIGHT E78-23 ON 16 JUL 76 20 SECONO AVERAGING PARTICLE SIZE DISTRIBUTIONS (NUMBER W**3-MM)	CLCUD SIZE PRESIP PROBE (MU) PROBE	23 0. 404 0.	43 0. 647 0. ALT	62 0. 944 0.	1538	122 0. 1835 0.	142 0. 2132 0.	2726 0.	3023 0.	221 0. 3320 0. TAS	241 0. 3617 0.	266 0. 3914	0. 4508		. U. C.		INTERVAL START#20:12:00* PARTICLE SIZE DISREULIONS (NUMBER/H##?-HM)	75.50	PROBE (MU) PRIBE	0 707		20 044	1241 0.	102 0. 1538 D. TEMP	122 0. 1835 0.	0. 2132 U.	161 0. 2429 U. DEMPOIN	181 0. 2729 0.	3320 G. TAS	241 6. 3617 6.	9. 3914	280 0. 4211	300 6. 4508 6.	8,592-06 0. 0.	0

	9 1 1	P (MB)	7.00.01	ALT (KM)	.143	107 0731	ובשה וכי	711	DEMPOTINT			TAS (M/S)	76.2			TOTALS		0				(MB)	1004.9	****	ALI IN		TEMP (C)	10.9		DEMPOINT	9.		TAS (M/S)	78.5			TOTALS	0.	•	
1 FGL	20 SESOND AVERAGING 3140* IUMBER/M**3-M4)	PRESTP	• 5	.0	. 0		•	•	•				.0			••	.0	0		W++3-H4)	01000	PRESTO		•	•	• •			.,			:	•	:		•••				
UDY BY	20 SE 113140* (NUMBER	SIZE	404	249	776	1241	1556	1635	2613	2726	3023	3320	3617	3914	4211	4500			114:00	CNUMBER	20.00	SILE		3 1	140	***	1538	1835	2132	5429	2726	3023	3320	3617	3914	4211	4208			
AFML MARINE LAYER STUDY BY AFGL	IGHT E78-23 ON 10 JUL 78 20 SESOND AVER INTERVAL STAFT #2011346* PARTICLE SIZE DISTRIBUTIONS (NUMBER/H+**;-MH)	CLOUD		. 0	.0			•	•	•	• • •		.0	0.	•				INTER VAL START :*20 :14:00*	SIZE DISTRIBUTIONS (NUMBER/M##3-MM) TYPE: RAIN		CLCCO	100	•	. 0	•				.0	0.	.0					. 0			Control of the contro
FHL MAR	23 ON INTER	SI ZE	23	, M	62	85	162	122	145	101	261	221	241	260	286	300			INTER			SIZE		23	43	29	1 02	1 22	142	161	181	201	221	241	260	280	300			
•	FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	3.005406	1.08E+07	5.38E+06	1.23 E+06	1.21E+86	•••	•	•	• •			.0	0.	. 0	4.415-06	2		PARTICLE		SCATTER	1 0 0 0	4.67E+06	8.14E+06	4.08E+06	1.156 +05	4 475466		0.	.0	.0	0.	.0			0.	. 305	4. / UE-Ub	
DATA		ST ZE	•	t u	9	00	10	15	* 1	10	20	25	54	56	28	30		ME D D				SIZE	000	2	3	•		1.0	14	16	18	20	22	54	92	28	30		2 2 2	,
-	_			_	_	_	-	-	_	-	_	-	_		_				_										_		_									
PASS # 5	9	6 (MB)	1005.4	ALT COM	141		TEND (C)	11.0		DEMPOINT		137 17 247	77.8	2			TOTALS	•					1004.9		ALT (KM)	.145	-	TEMP (C)	11.0	THEODEN	0.00		TAS (M/S)	76.3				TOTALS	•	
PASS	OND AVERAGING				141				.0	O. DEMPOINT			77.8							H+63-M)			1004.9		D. ALT (KM)	6145		TENG		DEUDOTAL				16.3			0.			
PASS	20 SECOND AVERAGING 113100* (NUMBER/W*3-M)					• •		.0	.0	O. DENPOIN	•	•				.0		:	***************************************	(NUMBER/ H**3-M)		PRESIP		.0 404	D. ALT		.0	O. TEN	•••	•	2726	•		• • •					•	
PASS	10 JUL 78 20 SECOND AVERAGING AL STARTINE 2013:100* STRIEUTINOS (NUMBER/ M**3-M*) YPER RAIN	PRECIP		*04	944	• •	1538 0.	1835 0.	2132 0.	O. DENPOIN	•••	3023 0.			4211	4508 0.	•	:	400000000000000000000000000000000000000		TPE KAIN	PRESIP	CHU) PROBE	.,	647 B. ALT	.0 446	1241 0.	O. TEN	1835 0.	2132 0.	0 6242	9717	2200	3617 0	2017	1121			0.0	
MARINE LAYER STUDY BY AFGL PASS	S ON 10 JUL 78 INTEXVAL STARTI*20:1 IZE DISTRIBUTIONS (N TYPE: RAIN	SIZE PRESIP		*04	0 749	1241 0.	1538 0.	1835 0.	0. 2132 0.	0. 2429 C. DEMPOIN	2726 0.	3023 0.	3320 0.	2010	0. 4211	0. 4508 0.	•	.,		SIZE DISTRIBUTIONS	ITPE : KAIN	CLOUD SIZE PRESIP	CHU) PROBE	0.0 404 0.0	n. 647 0. ALT	.0 446	0. 1241 0.	0. 1538 0. TEMP	1835 0.	21.30 0.	2225 0	2021	3300	3617 0.	2017	1121	4508 0.		0.0	•
PASS	FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING PARTIES OF START 182013 400* PARTICLE SIZE DISTRIBUTIONS (NUMBER M**3-141) TYPER RAIN	CLOUN SIZE PRESIP		23 0. 404 0.	43 6.	1241 0.	102 0.	1835 0.	142 0. 2132 0.	161 0. 2429 0. DEMPOIN	181 0. 2726 0.	3023 0.	221 0. 3320 0. 143 6	250 0 3014 0	0. 4211	0. 4508 0.		.,	400000000000000000000000000000000000000		ITE KAIN	SIZE CLOUD SIZE PRESIP	PROBE (MU) PROBE	0.0 404 0.0	47 0. 647 0. ALT	0.	82 0. 1241 0.	102 0. 1538 0. TEMP	122 0. 1835 0.	142 0. 6136 0.	161 0. 2429 0.	161 0 2023 0	201 00	24. 0. 3617 0.	0 1102	280 0. 2314	4508 0.		8.71E-06 0. 0.	•

	ING	P (MB)	1002.4	ALT (KH)	. 166	TEND (C.)	10.5		DEMPOINT	0.	TAS (M/S)	86.9			TOTAL	.0					1003.3		ALT (KM)	. 158	-	TEMP (C)		DEMPOTINT	•		TAS (H/S)	92.4			TOTAL		
1 FGL	20 SECOND AVERAGING 5100* UMBER/W**3-MM	PRECIP	0.		•		. 0	0.	•	•	0.		••			0.			M**3-#	PRECIP	PROPE	•	•		•	•	•			••			•				,
TUOY BY	20 SEC 0115100* (NUMBER	SIZE	707	249	116	1541	1835	2132	2429	3023	3320	3617	3914	4511		-		0115120	CNUMBER	SIZE	(ON)	404	249	446	1241	1538	21 12	2429	2726	3023	3320	3617	3914	4508			
AFWL MARINE LAYER STUDY BY 1 FGL	IGHT E78-23 ON 10 JUL 78 20 SECOND AVER INTERVAL START:*20:15:00* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**5-M*)	CLOUD			•		• •		• 0	• •	0.	••	•		;	0.	0	INTERVAL START 1420115120*	SIZE DISTRIBUTIONS (NUMBER/M**3-M) TYPE: RAIN	CLOUD	PROBE	•		0.	•	•	•				•			•			
IFHL MAR	INTER OF	SIZE (MU)	23	43	62	28	122	145	161	181	221	241	260	2002		-		INTERV	SIZE DI	SI ZE	OW)	23	43	62	82	105	166	161	181	201	221	241	260	300			
•	FLIGHT E78-23 ON INTE	SCATTER	7.1 0F+06	1.116+07	6.32E+06	2.66E+06	5.28F+05	0.	5.16E+05	•		.0	•	•	•	8.54E-05	σ		PARTICLE	SCATTER	PR 08 E	5.51E+06	1.77E+07	5.00E+06	3.35E+06	0.	5.5/E+U5			0.	.0		•	•		5.88E	,
DATA		STZE		t u	9		150	1 1	16	19	22	52	26	828	90	3#7	0 0 3			S1 2E	CHO	2	t	9	00	10	12	1 7	18	20	22	54	26	28	;	CEC	MED 0
PASS # 5 DATA		ā	1005.2	ALT C	. 142		TEMP (C)	7.1.0	DENPOTAT	6.	TAC (M/C)	78.6			TOTALS	9.	END OF PASS				P (MB)		ALT (KM)	.157		TEMP (C)	10.8	111111111111111111111111111111111111111	DEMPOINT	:	TAS (M/S)	82.5			TOTALS	.0	-
<u>a</u>	9 ·	0	100	717	-		=		130		TAC	-				0	EN OF						4			-			DEN		TAS						
_	COND AVERAGING	PRESIP		0.0		. 3		• • • •			145			.0		0	O END OF		27 H** 3 - H4)	PRESIP	PRJBE	. 0	Α.		• 0	f. T	.0	.0	0. 0.		O. TAS		.0		. 0	0.	0
_	20 SECOND AVERAGING 0114120* (NUMBER/M**3-MM)		300	+00	• • •	• • • •	•								4508 C.		PO OFF	***************************************	(NUMBER/M**3-M4)	SIZE PRESIP		404			•		1835 0.		•	3023 0.			3914 0.	4211 0.	4508 0.	0.	
_	10 JUL 78 20 SECOND AVERAGING AL STARTIF 20114120* SSRIEUTIONS (NUMBER/M**3-MM) YPE RAIN	SIZE PRESIP	Jacks (Or)	•	• • •	• • • •	•							4211		0	END OF	NA CTABLESO 114140	ISTRIBUTIONS (NUMBER/M**3-M4)	SIZE		, tota			•		0. 1835 0.		•	3023 0.	3320 0.	3617 0.				0.0	
_	10 JUL 78 VAL START:#2011 IISTRIEUTIONS (N	SIZE PRESIP	PROBE	•		• • • •	0. 1538 0.		2429 0	0. 2726 0.		3520 0.	3914	6. 4211	.0	0.0		TATES UNI CTABLES OF 1445 AND	S	SIZE OUD SIZE	(UN)		547 0		1241 6.	0. 1538 0.	.0	0. 2132 0.	2429 0.	•	3320 00	3617 0.			• 0	.0	0
AFHL MARINE LAYER STUDY BY AFGL	FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING INTERVAL STARTIF 2014420* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MN) TYPE: RAIN	SIZE CLCUD SIZE PREJIP	PROBE	23 0. 404 0.		82 0. 1241 C.	102 0. 1538 0.	122 0. 1835	2429 0	181 0. 2726 0.	3023 0.	3520 0.	3914	6. 4211	.0	0 .0		TAMES UNI CTADT 68 201 1 LEEL NO.	PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**3-M) TYPE: RAIN	SIZE OUD SIZE	(MU) PROBE (MU)		.0 279	43 040	82 n. 1241 G.	102 0. 1538 0.	122 0.	142 0. 2132 0.	2429 0.	•	3320 00	3617 0.		::	• 0	0.0000000000000000000000000000000000000	

	9NI:	P (MB) 1018.6	ALT (KM)	.031	TEND (C)	11.8		DEMPOINT	0.	TAS (M/S)	78.5			TOTALS	•	D			P (MB)	ALT CKM)	.028	10.	11.7		DEMPOINT		TAS (M/S)	77.8			TOTALS	:	
FGL	20 SECOND AVERAGING 7840* UMBER/M**3-M)	PRESTR		0.0	•			.0					•	•	0.		/ H** 3-PM)		PRES IP PR3 BE	•	•••	.0	•		•	• •		:	•	•••			
TUDY BY A	20 SE3 0117140* (NUMBER/		101	116	1241	1558	2132	5459	2726	3023	3617	3914	4211	8054			20.818800* S (NUMBER		SIZE (MU)	101	746	1541	1538	2132	5459	3023	3320	3617	3914	4508			
AFWL MARINE LAYER STUDY BY AFGL	IGHT E78-23 ON 16 JUL 78 20 SESOND AVEI INTERVAL START*20117:40* PARTICLE SIZE DISTRIBUTONS (NUMBER/M**3-MM)	PROFE				•	• • •		.0	•	•		.,		0.	•	INTERVAL START #20 #18#00* SIZE DISTRIBUTIONS (NUMBER/M**3-M4)	TYPE: RAIN	CL CUD PR CB E		•		•	• •		•		.0			;	•	
FHL MAR	-23 ON INTERV	SIZE (NU)	23	6.5	82	102	152	161	181	201	172	260	280	300			INTER		SI ZE	23	£3	82	102	145	161	181	221	241	260	280	2		
	FLIGHT E78-23 ON INTER PARTICLE SIZE D	PROBE	2.96E+08	6.50E+08	5.82E+08	4.19E+08	3.32E+08	1.785+08	2.25E+08	1.39E+08	1.01E+08	2.86E+07	4.67E+06	.0	8. 28F-07	18	PARTICLE		SCATT ER PR CB E	2.15E+18	4.72E+08	4.45E+38	3.68E+08	2.84E+18	2.02E+08	2.53E+08	2.28E+U8	1.40E+08	1.29E+18	3.00E+07	•	1.38E-32	
DATA		SI ZE	2	t t	o ec	10	15	* *	18	20	25	56	28	30	000	0 0 1			SI ZE	2	3.	•	10	15	16	1.8	20	24	56	28	30	O O S	
PASS # 6				-	6.	3	11.9			:	(8/1)	15.1			TOTALS	29 62			P (MB)	1018.5	(KM)	. 032	9	11.7	TN.	•		77.			20101		
PASS	9w1	(BE) d	1010.	ALT (KH)	620.	TEMP (C)	11		DEMPOIN		TAS (4	1				.,			_	10	ALT (KM)		TENP (C)		DEMPOTINT			TAS (M/S)				•	
	JOND AVERAGING	PRESIP PROBE P (MB)	1010.	O. ALT CKM		O. TEMP (.0	0. UEMPUIT				•			0 .0		ALU-S-LUA	PRESTP PROBE	10	O. ALT		D. TEMP		O. DEMPOT			TAS		; ;		. 0	
	20 SEJONO AVERAGING 117100* (NUMBER/M*3-191)		•	O. ALT				•	O. DEMPOI		D. TAS		3914 0.	•			0117120*	(NONDERN HELE PARTY)			D. ALT	• • •		.,		• • •		G. TAS			0.	•	
	10 JUL 78 20 SE2 OND A VERAGING 10 JUL 78 20 17100* STRIEUTIONS (NUMBER/ M**3-194) TPE! RAIN	PRESIP	•	647 0. ALT	•			•	O. DEMPOI		3320 0. TAS (3914	•			VAL STAPT #20:17120*	INTRIBUTIONS (NORBER) HT.S-HT.	PRESTP PROBE	70 70 7	D. ALT	944		1835 0.	•	• • •		3320 0. TAS	3617 0.	4211		•	
	10 JUL 76 VAL START:#20:1)ISTRIEUTIONS (N	SIZE PRESIP (MU) PROBE	104	0. 647 0. ALT	944 0.	1538 0.	1835 0.	0. 2132 0.	0. 2429 0. DEMPUL	2023 0.	3320 0. TAS	3617 0.	3914	4508 0.	•	•		SIZE DISTRIBUTIONS (NORDER) HTTS-HTT	SIZE PREJIP (MU) PROBE	303	0. 647 0. ALT	0. 944 0.	1538 0.	1835 0.	2132 0.	• • •	3023 6.	0. 3320 C. TAS	3617 0.	4211	0. 4508 0.	.0	
PASS ACEL MARTINE LAVER STUDY BY AFGL.	FLIGHT E78-23 ON 10 JUL 78 20 SEJOND AVERAGING INTERVAL START 120 117100* DARTICLE SIZE DISTOREUITONS (NUMBER/M**3-M*) TYPE: RAIN	CLOUD SIZE PRESIP PROBE (MU) PROBE	104	43 0. 647 0. ALT	62 1.08E+04 944 0.	1538 0.	122 0. 1835 0.	142 0. 2132 0.	161 G. 2429 G. DEMPUL	26: 6 7023 0.	3320 0. TAS	241 0. 3617 0.	266 0. 3914	1737	•	•		PARTICLE SIZE DISTRIBUTIONS (NONDER) HT. 3 - HT.	CLOUD SIZE PREJIP PROBE (MU) PROBE	72 0	0. 647 0. ALT	62 0. 944 0.	402 0 1538 0	1835 0.	142 0. 2132 0.	2726 0.	201 0. 3023 0.	221 0. 3320 0. TAS	241 0. 3617 0.	0. 4211	330 0. 4508 0.	.0	•

IG ING	P (MB)		ALT (KM)	. 029	TOTAL STREET	יביון	••••	DEMPOTNT	•	TAS (H/S)	76.9				Je 10 1 a	;				P (MB)	1019.5	ALT (KY)	. 026		(S) GH31	11.8	DEMONTAL	10.00		TAS (M/S)	16.5			TOTAL	
20 SECOND AVERAGING 9100* IUMBER/M**3-M*)	PRESTP PRSBE	0.	.0		•			0.		::			0.	0.				(Me 8 3- MI)	PPFTP	PRINE			:		•	•	•			•		•			
20 SE(SIZE (MU)	404	249	946	1241	1836	2132	5459	2726	3350	3617	3914	4211	4508			*0	(NUMBER	STZE	(NA)	707	249	746	1541	1538	1835	2012	2726	3023	3320	3617	3914	4508		
IGHT E78-23 ON 10 JUL 78 20 SECOND AVER Interval Start*20.119100* Particle Size Distributions (Number/m**3-my) Type: Rain	CL OUD PR OBE	.0		•	• •		::	.0	•					9.		,	ACCOUNT STABLE STATE	PARTICLE SIZE DIRECTORS (NUMBER M**3-MY) TYPE: RAIN	CLoun	PRCBE	. 0	. 0	• • • •		•	•	•				•	•	•••		
INTERV SIZE DI	SI ZE (HU)	23	43	62	28	122	145	161	181	221	241	269	286	300			VESTAT	SIZE DI	STZE	CHO	23	24	62	82	102	175	1 61	181	201	221	241	260	300		
FLIGHT E78-23 ON INTER PARTICLE SIZE	SCATTER PROBE	5.35E+06	1.60E+07	1.07E+07	1.196+07	5.34F+06	5.95E+16	5.95E+06	2.36E+06	1.50E+06	1.79E+06	.0		0.	1.42F-114	16		PARTICLE	SCATTER	PROBE	7.165+06	1.55E+07	1.19E+07	1.796+06	1.19E+06	2. 38F + 0 F	1.805406	5.98E+05	5.98E+05			•	• • •		
	ST ZE	2	*	9 (0 0	25	::	16	18	22	24	26	28	36		4500			STZE	(AC)	^	1	٠	&	10	16	4 +	. 67	20	22	72	92	32		200000000000000000000000000000000000000
9011	(NB) 4	1013.4	ALT (KH)	. 024	-	LENP ICT	11.7	DEMPOINT	0.	TAC (W/C)	77.9				TOTALS	•				(HB) d	1018.9	ALT (KM)	.028		TEMP (C)	11.7	111100000	DEMPOTAL		TAS (M/S)	78.2			TOTALS	
20 SECOND AVERAGING 8120* IUMBER/W**3-M*)	PRES IP PRS BE	0.		.0			•			•	•	::						2/ He # 3 - HH }	01.300	PROBE				.0	.,		•	•			.,	•	•	;	
20 SE 0.118120*	SI ZE	707	647	116	1241	1538	1635	5429	27.26	3023	3550	3914	4211	4508				CNUMBER	24.12	(MU)	707	404	716	1241	1538	1835	2132	5456	3023	3320	3617	3914	4211	-	
IGHT E78-23 ON 10 JUL 78 20 SECOND AVER INTERNAL STRATIS-20.18120* PARTICLE SIZE DISKIENTINS INUMBER W**3-MM TYPE: RAIN	CL 000 PR08E			.0			•		•		•			.0		•		INTEVAL STARTIFZU.18:40* PARTICLE SIZE JISTRIBUITONS (NUMBER/M#*5-HM) TYPE: RAIN	010	PROBE		•		.0			•	•			. 0	0.	•	;	
INTER	ST ZE	24	£4	62	82	102	122	161	181	201	122	266	280	300				SIZE	25.4.5	(MU)	;	27	65	82	102	122	145	161	201	221	241	260	280	•	
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER PR 09E	8 695407	1.77E+08	1.71E+08	1.93E+08	1.64E+08	1.60E+08	1.216+08	1.97E+08	2.03E+08	2.28E+08	2 4 2 F + 10 8	1.57E+08	1.76E+06	:	2.13E-02		PARTICLE		PROBE		6 4 6 E 4 0 7	3.74E+07	4-08E+07	3.746+07	2.99E+07	2.98E+07	2.92E+07	2.57E+07	3.396+07	4.20E+07	5.95E+07	2.97E+07	•	
	11 ZE		. 4	9		10	15	1 9	18	50	25	3,4	28	30		0				(40)	,	v -	, .	•	10	12	14	16	20	22	54	92	28	20	

ING	P (M9)	1800	ALI (KT)	. 06.	TEND (F)	15.1		DEMPOINT	0.		TAS (M/S)	7.77			20501	D. OTALS	9			P (MB)		ALT (KY)	120.	101 000	12.0		DEMPOTAT	•		TAS (4/S)	77.3				TOTALS	
20 SECOND AVERAGING 0120* UMBER/M**3-M1)	PR31P PR38E	•••	• • •	•		•	•				: :			.,	3.				(H-E 2-H/)	PRES IP PRO EE	.,	•	•	•	•			.0	0.	.,	.,	.0				•
20 SE (NUMBER	STZE	404	100	1761	15.41	1230	21 32	2429	2726	3023	3320	3617	3914	4211	4508				CNUMBER	STZE	101	647	346	1641	1830	2132	2429	2726	3023	3320	3617	3914	4214	4508		
IGHT 278-23 ON 10 JUL 78 23 SESOND AWER Intrada Latert*20.12010* Particle Size Distributions (Nühber/m**3-PM) Type: Rain	CL OUD PR CBE		•	•	•	•	•	• •						.0	.0				INTERVAL START#20:20140# SIZE DISTRIBUTIONS (NUMBER/M##3-MM) TYPE: RAIN	CLCUD	.0	.0	•		•				.0	.0	.,	:				•
INTER	SI ZE	23	5	29	20	102	122	161	181	201	221	241	260	280	300					SI ZE	23	43	62	28	100	1 42	161	181	201	221	241	260	280	300		
FLIGHT E78-23 ON INTER	PROBE	1.47E+08	2.53E+38	1.94E+08	1.48E+08	9.82E+07	8.17E+37	6 + 8E+07	7.82F+17	3.62E+1	2 345406	0.345.00	1.17E+06	0.		1 215-07	00-313.1		PARTICLE	SCATTER	2.24E+07	3.89E+07	3.71E+07	3. 36E+17	Z. 36E+07	10.545.0	8 25F + 15	6.49E+36	2.36E+06	5.89E+05	0.	0.	0.			2.35E-04
	ST ZE (40)	2		9 0		16	77	* 4	0 4	070	22	27	26	28	30					ST ZE	2	1	9	00	7	77	1 1	8	20	22	54	56	58	30		4500
ING	(H)	1019.1	ALT (KM)	.027		TEMP (C)	11.8		DEMPOINT			TAS (4/5)	17.3			TOTALS				P (HB)	1019.0	ALT (KM)	. 027		TEMP (C)	11.9		DEMPOINT		TAS (M/S)	77.7				TOTALS	•
20 SECOND AVERAGING 9140* IUMBERFH**3-M1)	PRESIP PROBE	9.	.0		.0	.0	.0		•	•	•	•	•						(H4-5-4H)	PRESTP PROBE			.0	.0	• 0	•	•	• • •	•		•	•			;	
SET NABER	3E		249	,	7	38	2	32	6	9	23	0		5914	1208				958	w =	707	249	116	1241	1538	1835	21 32	6242	67/7	2300	3350	2017	4211	4508		
2 10 (NU	SI ZE	404	99	446	1241	1538	1835	2132	2429	2726	3023	3320	3617	6.5	t t				0 12 01 (NUM	SIZE	74	9		-	-					0 6						
10 JUL 78 2 /AL START ##2 0119 ISTRIBUTIONS (NU	CLOUD SI PRCBE (M	0.0															.0		VAL START: *20:20: ISTRIBUTIONS (NUM TYPE: RAIN	CLCUD SIZ	77			.0	6.						•	•	•		;	
10 JUL 78 2VAL START#2011 DISTRIBUTIONS (N		•			.0	.,		••	•	.0	.0	• 0	•	•					INTER SIZE D					.,	.0			•	• • •	•	221 0.			202		
FLIGHT E78-23 ON 10 JUL 78 INTERVAL START#2 0119 PARTICLE SIZE DISREDUTONS (NU TYPE: RAIN	CLOUD	•	43 0.	62 0.	62 0.	132 0.	122 0. 1	142 0.	161 0.	181 0.	201 0.	87E+05 221 0.	241 0.	200 000			-0 +0-	2	INTERVAL STARTI*2012012012 PARTICLE SIZE DISTRIBUTIONS (NUM	CLCUD		7 2 0	62 0.	82 6.	102 6.	122 0.	142 6.	161 6.	181 0.	501 00	.90E+05 221	147				

5 ING	(WB) d	1019.5	ALT (KM)	.023		TENP (C)	15.0	1	DEMPOINT	7.		TAS (M/S)	77.5				TOTALS		0					P (MB)	9.6707	ALT CKMS	. 022		TEND (C)	12.1		DEWPOINT	9.		TAS (M/S)	77.5					TOTALS	•
20 SECOND AVERAGING 11149* IUMBER/M**3-M1)	PRESTP PROBE	•		.0		.0			.0			.0	0.	0.	0.				0		/ Het 3-HI)		PRESIP	PROBE	9.							.0	.0	.0					:.			
20 SE 121143* (NUMBER	SIZE (MU)	404	249	116	1541	1538	1835	2132	5429	2726	3023	3320	3617	3914	4211	8054				0 822 80 0*	CNUMBER		SIZE	(MA)	707	647	776	1241	1538	1835	2132	5429	2726	3023	3320	3617	7161	160	1124	4200		
ISHT E78-23 ON 16 JUL 78 20 SECOND AVER INTERAL STATI*20 121143* PARTICLE SIZE DISKREDUIONS (NUMBER/M**5-MY) TYPE: RAIN	CLOUD	•		.0	.0	.0	•	• 0	.0	:				.0	.0				0	INTER VAL START 1420 122 10 04	SIZE DISTRIBUTIONS (NUMBER M** 3-14)	THE KAIN	CLCUD	PRCBE	. 6							.0	•	.0				•	•	•		
INTER SIZE D	SIZE (MU)	26	43	62	82	105	122	145	161	181	201	221	241	260	280	300				INTER			SI ZE	(MA)	23	27	25	82	102	122	142	161	181	201	221	241	250	192	200	200		
FLISHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	204540 3	1.776+07	1.77E+07	2.07E+07	2.48E+07	2.30E+07	1.71E+07	1.89E+07	2.78E+07	2.01E+07	3.36E+07	4.19E+07	5.31E+07	3.01E+07	0.		3,23E-03	52		PARTICLE		SCATTER	PROBE	. 0		1.105406	2. 17F+06	1.795+06	5.95F+05	0.	.0	0.	0.	. 0		• •	•	•	• 0		4.83E-16
	ST ZE (MU)	c	t L	9	œ	10	12	14	16	18	20	22	54	92	28	30		LWC	0 0 3				SIZE	(40)	•	1 2		o oc	-	2 -	14	16	18	20	25	24	25	92	82	30		2 1
		_																								V									T				Ť			
1 NG	(8H)	1019.5	ALT (KM)	. 023		TEMP (C)	12.0		DEMPOINT			TAS (4/S)	77.4				TOTALS	•	0					P (MB)	1019.4		026	+ 30 .	TEND (C)	12.0		DEMPOTAT	0		TAS (M/S)	77.0	0.27			-	TOTALS	•
COND AVERAGING	PRESIP P (HB)	1019.5	O. ALT CKM	0023	0.	0. TEMP (C)	0. 12.0		DEMPOINT	0.	.0	G. TAS (4/S)	0. 77.4	0.	.0		TOTALS	•	0		/Hee3-H4)		PRESIP	PRJBE P (MB)	1019.4			***	TEND (C)	12.0		DEMPOTINT	0-		TAS (M/S)	-		••	•			0.
26 SECOND A VERAGING 121100* (NUMBER M**3-191)			SAT CKM		0	O. TEMP		.0	0.	0.	3023 6.	G. TAS	0.	0.		0.	TOTALS	•		12311200	(NUMBER/ H##3-H4)		SIZE PRESIP					•	•		21.32 0.				140				4211 0.			
15 JUL 78 26 SECOND AVERAGING VAL STRETH-20.12.100* STREED ITONS (NUMBER/H**3-M)	PRECIP PROBE		• •		1241 0.	O. TEMP	.0	.0	0.	0.	0. 3023 C.	3320 G. TAS	0.	0.		0.	TOTALS	•		/A: CTAST ## 20 #21#2 A#	ISTRIBUTIONS (NUMBER/ M**3-M4)	TYPES RAIN	SIZE	(MU) PR3BE				•	*****		2132 0.	24.29			3120 0.			3914	•			•
10 JUL 78 VAL START # 20 12 DISTRIBUTIONS (N	SIZE PRESIP		• •	0 946	0. 1241 0.	0. 1538 0. TENF	0. 1835 0.	0. 2132 0.	0. 2429 D.	2726 0.	.0	6. 3320 G. TAS	0. 3617 0.	0. 3914 0.	0. 4211	C. 4508 0.	TOTALS	•	0	TNTES VAL STABT # 20 122112 0#	SIZE DISTRIBUTIONS (NUMBER/H**3-MY)	TYPE : KAIN	SIZE	PRCBE (MU) PRJBE	0 707		170	124.1	**************************************	1835	0. 2132 0.	0. 24.29 0.	0. 2726 0.	3023 0.	2200 0	3520 0.		3914	4211	0. 4508 0.		•
FLISHT E78-23 ON 15 JUL 78 26 SESOND AVERAGING INTERVAL STARTWEED 12180 PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-WM) TYPE: RAIN	CLOUC SIZE PRESIP PROBE (MU) PROBE		43 0. 647 0.	62 0.	82 0. 1241 0.	102 0. 1538 0. TEMP	0. 1835 0.	142 0. 2132 0.	161 0. 2429 0.	0. 2726 0.	.0	6. 3320 G. TAS	0. 3617 0.	0. 3914 0.	280 0. 4211	C. 4508 0.		15 0. 0.	0	TNTE3 VAI START ## 20 121 12 00	PARTICLE SIZE DISTRIBUTIONS (NUMBER/ H##3-H4)	TYPES RAIN	SIZE CLOUD SIZE P	PRCBE (MU) PRJBE	0 707		170	0 the 0 20	10 1121	122 1 1835 1	0. 2132 0.	35E+115 161 11. 2429 11.	181 6. 2726 6.	201 0. 3023 0.	2200 0	261 0. 3550 0. 143	3517 0.	3914	0. 4211	0. 4508 0.		

GING			1007.2		ALT (KH)	. 126	100	IENP (C)	11.6	DEMPOTAT	9.		TAS (N/S)	95.4		The second second	Totale						10001	-	ALT (KH)	. 185	TEND ICH	10.0		DEMPOINT	•	TAS THZS					G. TOTALS	
20 SECOND AVERAGING	(Hee 2 - 194)	PRESTP	PRUBE			.0	.0	:.		: -	0.		.0	.0			:	0.	•		(Hee 3-14)	PRESTP	PROBE	9.			: :	0.	0.			.0		9.			.0	•
20 SE	CNUMBER	SIZE		101	249	776	1241	1556	24 72	2429	2726	3023	3320	3617	5914	1174	4200	-		123120	CNUMBER	SIZE	(MD)	101	249	136	1538	1835	2132	5459	3023	3320	3617	3916	4211	4508		
16 JUL 78	PARTICLE SIZE DISTRIBUTIONS (NUMBER/HESS-HH)	00010	, and a			•		:.		::	.0	.0	0.		: -			.0	•	INTERVAL START 1820'123120	PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M) TYPE: RAIN	CLOUD	PROBE	.0			.0	0.	0.	•	::	0.		.0		:	0.	
-23 ON	SIZE 0	SIZE		23	£4	9	100	100	16.7	161	191	201	122	241	280	300				INTER	SIZE DI	SIZE	CHO	23	43	200	102	122	145	161	201	221	241	260	280	200	-	
FLIGHT E78-23 ON	PARTICLE	SCATTER	3	9.62E+06	1.22E+07	8.49E+05	8.54E+06	2 605406	6-61E+0F	5.46E+06	9.70E+86	8.12E+06	1.17E+07	1.335+07	1.39E+U/	5.29F+05	***************************************	8.78E-04	54		PARTICLE	SCATTER	PROBE	2.74E+07	4.95E+07	4.63F+07	3.32E+07	3.37E+07	3.32E+07	4.20E+07	6.16E+07	7.06E+07	5.58E+07	7.89E+07	5.21E+07	1.075406	5.60E-03	54
		SI ZE		~	,	۰ م		22	16	16	1.8	50	25	54	28	30	:	LHC	0 0 3			SIZE	54.03	2	4	0 «	10	12	4	91	502	22	42	52	28	2	LHC	MED 0
SING		9	1019.3		ALT (KM)	• 055	107 072	13.4	1601	DEMPOINT	•		TAS (M/S)	6.9			TOTALS	•	•				P (HB)		ALT (KH)	698.	TEMP (C)	12.0		DEMPOINT	:	TAS (M/S)	78.3			TOTALS		-
20 SECOND AVERAGING	(H+3-H)	PRECIP	7004			•	•				0.		•		•		:		0		(Hara 3 - Har)	PRECIP	98 CA4	.,	•	•	0.	0.				.0	.0				0.	
20 SE	CNUMBER	SIZE		101	249	**6	1241	1836	2132	2429	2726	3023	3320	3617	4714	4508				122140	CNUMBER	SIZE	SHO	404	249	1261	1538	1835	2132	6242	3023	3320	3617	3914	4211	4208		
3 ON 10 JUL 78 20 SE	SIZE DISTRIBUTIONS (NUMBER/ N**3-NY)	CL OUD	1004											•			:		0	INTERVAL STARTIF 20 122 14 0*	TYPE: RAIN	CLOUD	PRCBE			• •	0.	. 9			• •	0.	.0					0
-23 ON		SIZE		23	43	62	28	1 22	142	161	181	201	221	241	280	366	;					SIZE	OM)	23	43	8 2	102	122	145	161	201	221	241	260	280	200		
£78	PARTICLE	SCATTER			90+362°1	2.98E+06	1.196+06	5.945405	196+06	5.97E+05		5.97E+05	1.18E+06	5043/E+05	35 46			5.80E-05	23		AKIICLE	SCATTER	PROBE	2.35E+06	5.27E+06	1.35E+07	1.645+07	1.41E+07	1.47E+07	8.81E+06	10+346	1.76E+07	.70E+07	1.76E+07	1.29E+07		1.556-03	23
FLISHT E78-23	ď	SCA		:	1.7	2.9	:		::	5.9		2.	-			9		5				SC	۵	5		::	1.	1:	7.			1.1	1.	1:	7.	;	1.	

FLIGHT E78-23 ULT AN ACARE LARGE NO. 10 JUL 78 C. SCOND AVERAGING TARTY 20:15500 PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**3-MM) SCATTER SIZE CLOUD SIZE PRETIP PROBE (MU) PROBE (FLIGHT E78-23 ON 10 JUL 78 P (HB) SIZE SCATTER SIZE CLOUD SYS-9 LICKHOLD PROBE (MU) PROBE LICH 110 TOTALS LWC TOTALS LWC P (HB) P (P (HB) P	The color	13. Jul. 78 20 25 7000 AVERAGING TYPE: RAIN TYPE: TYPE: RAIN TYPE: TY
N 10040400000000000000000000000000000000	FL (KM) (HU) PP (FL) (HU) PP (F	P (18) 995.9 ALT (KM) 220 B 5.1 11.0 11.0 11.0 11.0 11.0 11.0 11.0 1	110 JUL 78 20 SE OND AVERAGING 11STRIFT 20124120** 11STRIFT 20124120** 11STRIFT 20124120** 11STRIFT 20124120** 11STRIFT 20124120** 11STRIFT 20124120** 10	TYPE: RINGER W# 5 - MI) TYPE: RAIN CLOUD SIZE PREJIP CLOUD CLOUD SIZE PREJIP CLOUD CLOUD
W- N4000N4000	F (HB) (HU) (HU) (HU) (HU) (HU) (HU) (HU) (HU	P (HB) (FU) (FU) 1995.9 ALT (KM) (FU) 1995.9 LEWP (C) 110	110 JUL 78 20 SETOND AVERGING 11STREUTIONS (NUMBER/MFF5-MM) TYPE: RAIN CLOUD 11STREUTIONS (NUMBER/MFF5-MM) 11STREUTIONS (NUMBER/MFF5-MM) 11STREUTIONS (NUMBER/MFF5-MM) TYPE: RAIN CLOUD 11STREUTIONS (NUMBER/MFF3-MM) TYPE: RAIN TYPE: RAIN CLOUD 11STREUTIONS (NUMBER/MFF3-MM) TYPE: RAIN TYPE: RA	10 JUL 78 14AL STATETE OF SETOND AVERACING CLOUD SIZE PRE71P 0

RAG ING	P (NB)	ALT (KM)	. 227	TEMP (C)	18.6	DEMPOINT	•	TAS (H/S)	•		TOTALS	:			P (MB)		ALT (KH)		TEMP (C)	10.7	DEMPOINT	0.	(3/A) 341	76.4	•		TOTALS
20 SESOND AVERAGING: 6120* IUMBER/M**3-M4)	PRESTP PROBE	::	::	:	::	•	::			:		.0	•	H + 3 - 1	PRESIP					• •		6.	•	• •			
20 SE 0 126120* (NUMBER	SIZE	101	1241	1538	2132	2429	3023	3320	3914	4211	4568			0 126140*	SIZE (MU)	101	249	1241	1538	1835	2429	2726	3023	3617	3914	4211	-
IGHT E78-23 ON 10 JUL 76 20 SECOND AVE INTERACAL START#-20 126:20* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MY	CLOUD		••		::	•	•••	•	• •	•	•	••		INTERVAL STARTI#20126140* Particle size distributions (number/m**3-M*) Type: Rain	CLOUD	••	•			•			• •		;;	•	;
1-23 ON 10 INTER ARL SIZE DIST	SI ZE	£3 £3	82	102	142	161	201	221	260	280	200			INTER E SIZE D	SI ZE (NU)	23	6.5	82	102	122	161	181	201	241	260	280	,
FLIGHT E78-23 ON INTER PARTICLE SIZE	SCATTER	3.56E+06 2.02E+07	7.71E+06 3.57E+06	1.18E+06	5.93E+U5	••	•••		•••	•	:	8.28E-06	,	PARTICLI	SCATTER	2.40E+06	1.14E+07	2.99E+06	.0	6.03E+05	.0.		•	•••			•
	STZE	20	w w	10	14	16	20	22	56	28	30	LWC	4ED D		SIZE (40)	2	v t	0 00	10	15	16	18	22	24	56	28	3
9w1	P (MB)	ALT (KM)	. 223	TEMP (C)	10.7	DEMPOINT		TAS (M/S)	76.6		TOTALS		9		P (HB)		ALT (KM)		TEMP (C)	10.8	DEMPOINT	0.	(3/8/ 372	76.7			TOTALS
20 SECOND AVERAGING 5140* UMBER/M**3-M)	PRESTP PROBE	::		•			•••		•			0.	0	(H-2-H)	PRESIP	0.	•	•		:.				•			:
JUL 78 20 SE START:*20:25:40* RIBUTIONS (NUMBER E: RAIN	SIZE	101	946	1538	1835	2429	3023	3320	3617	4211	4508			126100 (NUMBE	SIZE (NU)	101	249	1244	1538	1835	2429	2726	3023	3320	3914	4211	4200
ART 1.2	CL OUD PR CBE	••	•••	.0	•	:	•		•					INTERVAL STARTI*20 (26100* Size distributions (number/m**3-m)	CLOUD	.0		•	•••	•				•			
AL START:					~ ~	161	81	221	241	286	300				SIZE	23	43	29	102	122	147	181	201	221	260	280	200
3 ON 10 INTER JAL IZE DIST	SIZE C	23	825	102	12																						
FLIGHT E78-23 ON 10 JU INTERVAL ST INTERVAL ST INTERVAL ST TYPE:		2.406+06 23			12	01E+05		::	•••	::		6.73F-06	4ED 0 8	PARTICLE	SCATTER	2.99E+06	9.536+06	9.54E+06	1.79€+06		•		.0	•			

16 ING	P (MB)	442.4	ALT (KN)	220		TEND (C)	100	10.5		DEMPOINT	-		-	TAS (M/S)	79.1				TOTALS	9 10 14 5					995.5		ALT (K")	.224		TEMO (C)	100	11.5		DEMPOINT	0.		TAS (4/S)	77.8					TOTALS	
20 SECOND AVERAGING 7140* UMBER/ N**3-M9)	PRESTP						•	•	• • •	.0			•	.0	.0	.0	9.		;			V H** 3-HV		PRECIP	PRIME	.,						•	•			.0	.0	6.		•	•			
20 SE 0127140	SIZE	707	249	776	1241	15.28	2001	1000	2132	5459	2726	20.22	2000	3320	3617	3914	4211	4508				128100*		SIZE	100	101	249	746	1241	1538	200	1000	25.12	6242	5726	3023	3320	3617	3914		1774	4508		
IGHT E78-23 ON 10 JUL 78 20 SESOND AVEI Interal State 15 Tables (1977-1987) Particle Size Distributions (Number/m**5-M*) Type: Rain	CLOUD			0.				•	• • •	.0				.0	.0	.0	.,	. 0				INTERVAL STARTIF20128100* SIZE DISTRIBUTIONS (NUMBER/M**3-MY) TYPE: DATA		כרפהם	14095	••	.0	.0	0.			•	•	•		• •	.0	0.	0		•	• 0		.0
INTER SIZE D	SIZE	23	43	62	82	102	1 22	757	747	161	181	100	100	621	241	260	280	360	:			SIZE D		SIZE	000	23	43	62	82	1 02		17.5	7 .	161	181	501	221	241	260		200	200		
FLIGHT E78-23 ON INTER-	SCATTER	2.325+36	1.155+07	4.04E+36	2.315+06	1.735+06			•	.0	0.		•		.0	0.	.0	.0		5. 25F-06		PARTICLE		SCATTER	14095	3.53E+06	1.47E+07	7.04E+06	1.775+06	1.76F+06	20400	7.05E+37	•	•		• 0	0.	0.			•	•		7.22E-06
	SI 25 (4U)	~	t	9	•	10		1 .	* :	16	18	20	22	77	54	56	28	3.0		341	0			32 1S	5	2	t	9	0	. 0	13	24.		97	18	20	22	77	26	80	200	20		CEC
																				,							•	1										~					571	
ING	P (MB)	99390	ALT (KM)	. 223		TEND (C)				DE NO OI NT				TAS (M/S)	78.7				TOTALS		•				995.1		ALT (KM)	. 227		TEMP (C.	200			DEMPOIN	•		TAS (M/S)	79.5				-	TOTALS	•
COND AVERAGING	PR36E P (MB)	0.000	O. ALT (KM)	0.		TEND (C)				DENPOINT				C. TAS (M/S)	6.	9.		. 0			;	**************************************		PRESTP	•	.0	G. ALT (KI	0.	.0	TEMP (C.				U. DEMPOINI			O. TAS (M/S)	.6.			•••			0.
20 SESOND AVERAGING 1127100* (NUMBER/M*3-M)	۵.		647 0. ALT (KM)	0		TEMP (C)		1935 0.		.0			•	E. TAS	.5	3914 0.) +27 + 20* (NUMBER/ M**3 - MM)			FRUSE	*0 +0+	C. ALT	.0	1241 0.			•	•	U. DEMPOIN		.0	O. TAS (••						
10 JUL 78 20 SEJOND AVERAGING LS STARTING (NUMBER/H***-141) TYPE: RAIN	PR38E P			0	1241		2000	•		.0		2022	•	E. TAS	.5		4211	4508				VAL START #20 #27 #20 # ISTRIBUTIONS (NUMBER/ M**3-MM)	MIN KAIN	PRESTP	CHUI PRUBE	.0	C. ALT	.0	1241 0.	1578		1030 0.	•	SAZY U. DEMPOIN	•	.0	O. TAS (••	1014 0	1160				
10 JUL 78 VAL START:#2012 ISTRIBUTIONS (N	SIZE PRECIP (MU) PROBE	404 0.		0 946	1241		1000	1035 0.	0. 2132 0.	0. 2429 0.	0. 2726 0.	2002	3063	G. 3320 C. TAS	0. 3617 6.	3914	0. 4211	4508			• • • • • • • • • • • • • • • • • • • •	INTERVAL STARTI*20:27:20* SIZE DISTRIBUTIONS (NUMBER/M**3-M*)	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	SIZE PRESIP	PRUBE (AU) PRUBE	.0	0. 647 C. ALT	9 776		15.78	0007	1030 0.	0. 6136 0.	SAZY U. DEMPOIN	0. 2726 0.	0. 3023 0.	0. 3320 0. TAS (0. 3617 6.	1017	1160	1177	0. 4508 0.		0.
FLIGHT E78-23 ON 10 JUL 78 20 SE2 OND AVERAGING INTERVAL STAFF 120 127404* PARTICLE SIZE DISTRIBUTIONS (NUMBER/H***-194)	CLOUD SIZE PREJIP PROBE (MU) PROBE P	404 0.	43 0. 647 0.	62 n. 944 n.	1241	20 20 00 00 00 00 00 00 00 00 00 00 00 0	20 0001	(3E+U) 122 U. 1035 U.	0. 2132 0.	0. 2429 0.	2726 0	1000	201 0. 3023 0.	G. 3320 C. TAS	0. 3617 6.	3914	280 0. 4211	300 00			• • • • • • • • • • • • • • • • • • • •	INTERVAL START #20 +27 +20 + PARTICLE SIZE DISTRIBUTIONS (NUMBER/ M**3-M*)	z z z z z z z z z z z z z z z z z z z	CLOUC SIZE PRESIP	CAU) PRUBE CAU) PRUBE	23 0. 404 0.	0. 647 C. ALT	62 0.	82 0.	15.78	0007	100 000 0000	0. 6136 0.	DEMPOIL	181 0. 2726 0.	0. 3023 0.	0. 3320 0. TAS (0. 3617 6.	1017	*****	1177	0. 4508 0.		0.

ING	(6H) q		ALT , KM)	. 219		TEMP (C)	10.5	DEMPOTAT	DENT OT ME	:	TAC THACE		6.11			TOTALS	9.	•		P (MB)		ALT (KM)		TEMP (C)	10.4		DEMPOINT		TAS CAZES	76.6				TOTALS	
20 SEJOND AVERAGING 9:00* UMBER/M**3-MY	PRESTP PR33E	.0	0.				•			•	: .			::		,		• ·	3/ HFF3-HI)	PRESTP PR38E		•			• 0		•	•	•	•		9.			
20 SE 0 829 8 00 ° (NUMBER	SIZE	707	249	116	1241	1538	1835	2429	2726	2022	3063	3320	1916	4211	4508				(NUMBER	SIZE	404	249	1241	1538	1835	2132	5459	2022	3350	3617	3914	4211	4508		
-23 ON 10 JUL 70 20 SE3 OND A VER INTER ALM STARTINE 20 129 100* SIZE DISTRECUTIONS (NUMBER/M**3-MH) TYPE: RAIN	CLGUG	0.	.0		•	•	•	•	• •		• •	•	• • •					•	INTERVAL START #*20 129120* SIZE DISTRIBUTIONS (NUMBER/M**3-MM) TYPE: RAIN	CLOUD		•			0.			•		• •	0.		0.0		
INTER SIZE 0	SI ZE	23	£4	62	85	102	122	145	101	101	224	177	241	280	300					SI ZE	23	6.5	8.2	102	122	145	161	181	221	241	260	280	300		
FLIGHT E78-23 ON INTER	SCATTER	3.54E+06	1.78E+07	7.15E+06	5.92E+05	0.	5.96E+05		•	•	•	• • •	• • •	. 0	0.		4.85E-06	٥	PARTICLE	SCATTER PROBE	5.36E+06	1.97E+07	1.195+06	1.20E+06	.0	.0		•	•	•		9.			4.69E-06
	37.15	2	,	9	80 9	10	75	* 4	9 00	10	200	27	36	28	36		CHC			STZE	2	y t	•	10	12	14	16	18	22	24	26	28	30		2 2 2
941	P (#8)		ALT (KM)	.224		TEMP (C)	10.4	טביסט ב ייב	DEBLOID		(3/ 7/ 2/2	TAS (#/S)	2.8/			TOTALS		5		P (MB)		ALT (KM)	177.	TEMP (C)	10.4		DEMPOINT	•	100 (10/6)	78.6				TOTALS	
3-#1	PRESTA		.0	.0		0.	.0	•									.0	-	**3 - FM)	PR51P PR38E	0.		•					•		•					
COND	4 4	0	0	9	0					0	-	0	0 6				_		. 5	•												1	4508		
20 SECOND AVERAGING 128120* (NUMBER/M**3-M)	SIZE PRI	*0 +0+			1541	1538	1835	2132		2726 0			3617 0				_		128140* (NUMBER/H	SIZE P	505	249	***	1538	1835	2132	5459	2726	2000	3320	3016	3	î		
10 JUL 78 ZG SECOND VAL START#20+28+20* ISTRIBUTIONS (NUMBER/M**		0 +0+ 0-	249	556	1541				6242	2726	3023	3320		4211					VAL START:#20:28:40* ISTRIBUTIONS (NUMBER/M TYPE: RAIN	•			1367			0. 2132	0. 2429	2726	3023	3320	190	.0			
ON 10 JUL 78 NTERVAL START #-2012 ZE DISTRIBUTIONS (N	SIZE	9.	0. 647	946	0. 1241	.,		•	6742	2726	0.	3320	3617	4211	4508				SIZE D	SIZE P	0.		•			0.		•	•	•	• • •	• •			
FLIGHT E78-23 ON 10 JUL 78 20 SECOND INFRYAL STAFF ** 2018 2120 INFRYAL STAFF ** 2018 10 WHREF ** ** ** ** ** ** ** ** ** ** ** ** **	TZE CLOUD SIZE	23 0.	43 0. 647	62 0. 944	82 0. 1241	39E+05 102 0.		142 0.	6742	181 0. 2726	201 0. 3023	221 0. 3320	3617	0. 4211	4508		0,0	7	INTERVAL STARTION DISBERTH PARTICLE SIZE DISTRIBUTIONS (NUMBERTH TYPE: RAIN	CLOUD SIZE P	23 0.	43 0.	•	102 0		142 0.		•	201 0.	221 0.	• • •	• •			

GING	P (HB)	ALT (KM)	• 525	TENP (C)	10.3	DEMPOINT		TAS (4/S)			TOTALS	•			P (MB)	23000	ALT (KM)	627.	TEMP (C)	10.3	DEMPOINT	0.	196 (1976)	78.9		-	TOTALS
2G SECOND AVERAGING 0120* UHBER/H**3-MI	PRESTP PROBE		::	•			.0	•		.00				(Hee3-HI)	PRECIP	.0		•••	.0	.00					.0		
26 SE 0 130 120* (NUMBER	SIZE	101	944	1538	2132	2726	3023	3320	3914	4211			20 30 02 0	CNUMBER	SIZE	404	249	1241	1538	1835	2429	2726	3023	3617	3914	4211	
IGHT ET8-23 ON 10 JUL 78 20 SECOND AVER INTER VAL START 1*20:30120* PARTICLE SIZE DISTRIEUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CL OUD PROBE		•••	•		•••		•		•••		•	TATES OF STADE STADE STATES	PARTICLE SIZE DISTRIBUTIONS (NUMBER/ M**3-194) TYPE: RAIN	CLOUD	0.		::		•	::		•	• •	.0		-
INTERVAL SIZE DISTR	SI ZE	23	62 82	102	145	161	201	221	260	300			OSTAT	SIZE DI	SI ZE (MU)	23	£4.	82	102	122	161	181	201	241	260	300	
FLIGHT E78-23 ON INTER	SCATTER PROBE	6.37E+06 7.53E+06	5.80E+06	5.83E+05	::	::		•••		•••	, , , , ,	6		PARTICLE	SCATTER PROBE	5.22E+06	1.45E+07	1.74E+06	1.16E+06	•		0.	•			•••	5.555-05
	SI ZE	t 13		27	2 2 2	18	20	25	56	30		4:00			SIZE	2	*	0 00	97	15	19	18	20	54	92	30	-
Pive	(HB) q	ALT (KM)	.222	TEMP (C)	10.5	DEMPOINT		TAS (4/S)			TOTALS	•	*		P (#8)	11000	ALT (KM)	177.	TEMP (C)	10.4	DEMPOT NT	9.	TAS (N/S)				TOTALS
20 SECOND AVERAGING 9140* UMBER/M**3-M)	PRESTP PROBE	::	::	•	::	•••						•		(Hee3-HA)	PRESIP PROBE	0.	•			•		.0	•		.0	::	
20 SE 0 129 140	SIZE (MU)	404	944	1538	2132	2429	3023	3520	3914	4508			1 3 0 1 0 0	CNUMBER	SIZE	101	249	1241	1538	2132	5459	2726	3320	3617	3914	4511	
IGHT E78-23 ON 10 JUL 76 20 SECOND AVER INTERVAL STARTI*20129:40* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM) TYPE: RAIN	CLOUD	•••	•••	•		•••	•					0	AND STATE OF	SIZE DISTRIBUTIONS (NUMBER/M**3-M) TYPE: RAIN	CLOUD	. 0	•	• •					•		.0		•
FLIGHT E78-23 ON INTER PARTICLE SIZE D	ST ZE	5 5 4 5 8 8	82	102	145	161	201	241	260	300			TNTE	SIZE 0	SI ZE	23	43	82	162	142	161	181	221	241	260	300	
HT E78	T ER 3E	78E+06	7.146+06	1.80E+06	5.89E+05						20.75-06	6		PARTICLE	SCATTER PROBE	5.93E+06	1.55E+07	2.38E+06									7. 205-06
FLIG	SCATTER PROBE	7.13	1.73	1.80						;;	0				SCA	5.		2								::	~

Ne contraction of the contractio	P (MB)	-	ALT (KH)	• 522 •	TEMP (C.)	10.3		DEMPOINT	•	TAS (4/S)				TOTALS	:			P (HB)	995.6	ALT (KH)	. 223	to day	10.2		DEMPOINT		TAS (M/S)				TOTAL	•
ZO SECOND AVERAGING	PROBE	0.	.0	•				.,	•				•	:	0.	0	(H+-3-H)	PRESIP PROBE		•	.0	•	•		.0	•	•		•	•		
20 SE3 0:31:40* (NUMBER/	SIZE (MU)	101	249	446	1578	1835	2132	6242	2726	3320	3617	3914	4211	1000			0 132 10 0* CNUMBER	SIZE		404	116	1241	1538	2132	5459	27.26	3063	3617	3914	4211		
IGHT E78-23 ON 10 JUL 78 20 SESOND AVE: INTERVAL STARTI+20331440* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM) TYPE: RAIN	CL 0UD PR 0BE	0.	.0	•		•		.0	•				•	• •	0.	0	INTER VAL START:#20:32:00* PARTICLE SIZE DISTRIBUTIONS (NUMBER! N##5-MM) TYPE: RAIN	CLOUD		•••	0.	•	•		.0	•	•		.0	•	; ,	• • •
INTERV SIZE DI	SI ZE	23	£4	62	1 62	122	145	161	181	221	241	566	286	200			INTERV SIZE DI	SIZE	;	23	62	85	102	145	161	181	201	241	260	280		
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	4.09E+06	1.23E+07	6.46E+16	3.245+05	5. 80F+05	0.		•		• •	.0	•	••	6.62E-06	7	PARTICLE	SCATTER		5.92E+06	7.13E+0 €	1.78E+36	5.91E+05	5.98E+05	.0	•	•		0.	•		1.05E-UB
	SI ZE	2	,	9 0		100	1 1 1	16	18	22	54	56	28	20	LHC	0 0 3		ST ZE		~ 4	9	00	10	14	16	118	20	57	92	28	3	247
9 1 1	(MB)	443.5	ALT (KM)	+22.	100	TEMP (C)	10.3	DEMPOTINT	0.	13/11/ 514	78.5			TOTALS	.0.	0		E CHB	994.8		. 229		TEMP (C)	10.1	DEMPOINT	•		77.9			TOTALS	0.
20 SECOND AVERAGING 11:00* UMBER/M**3-M)	PRESIP PRSBE						•						.0	0.	.0	0	(H++3-H4)	PRECIP	300				.0	•		.0	. 0	•	0.	•	;	.0.
20 SE 0131100*	SIZE (MI)	707	249	116	1241	1538	1835	2429	2726	3023	3320	3914	4211	4508			0 : 31: 20°	SIZE		101	110	1241	1538	1835	5613	2726	3023	3320	3914	4211	6064	
IGHT E78-23 ON 10 JUL 78 20 SECOND AVER INTERVAL STARTI*CO#31000* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M*) TYPE: RAIN	CL 0U0 PR 0BE			.0	. 0			• •	•	.0	•			••	.0	0	INTERVAL START:*20:31:20* SIZE DISTRIBUTIONS (NUMBER/H**3-HM) TYPE: RAIN	OF OUR	1000		•		.0	.0	•	0	.0	•	0.0		•	-0
INTERV SIZE DI	SIZE (MU)	2.5	7 7	62	82	102	122	161	181	201	221	260	280	300				STZE	500	23	5.4	82	102	122	161	181	201	221	260	280	300	1
E78-	TER BE	700000	.46E+07	8.146+06	3E+06		10.	1/2+40	-						8.26E-06	æ	PARTICLE	SCATTER	PROBE	5.89E+06	1.356+07	2.34E+06	1.75E+06	5.78E+05	5.85E+U5			•				A LAFE OF
FLIGHT E78-23 I PARTICLE SI	SCATTER	,	1	8	2.	:							0	0	æ	,	1	v,					1			-	_	-	-			

91 NG	P (MB)		ALT (KH)	962.	107 000	ובשה וכי	10.5	DEMPOTAT	-		TAS (M/S)	83.0			TOTALS	.,	9			P (MB)	ALT CKM	. 302		TEMP (C)		DE NO OI NT	0.	107.77	145 (4/5)				TOTALS	2.60 E-05
20 SECOND AVERAGING 3100* IUMBER/H**3-141)	PRES IP PR38E	.0	.0	.0					•		0.	.0		0.		0.			H++3-H)	PRESTP PR39E	•		.0		• • •		.0		• 0		• 6	• • •		•
20 SEC 133100*	SIZE (MU)	707	249	446	1241	1558	1835	26136	2726	3623	3320	3617	3914	4211	4208				0133120* (NUMBER	SIZE (MU)	404	116	1541	1538	1835	2429	2726	3023	3320	3617	5314	4508		
FLIGHT E78-23 ON 10 JUL 78 Z0 SECOND AVER INTERAL START+20133100* INTERAL START+2011GNS (NUMBER/M*5-MM) TYPE: RAIN	CL CUD PR OBE	0.	.0	0.	• 0	.0	•	•	•	•			.0	•	.0	0.	0		INTER VAL START 1*20133120* SIZE DISTRIBUITONS (NUMBER/ M**3-M*) TYPE: RAIN	CLOUD	•	1. (05+04	0.		•		.0	• 0	.0		•	• • •		2.60E-C5
INTER	SI ZE	23	43	29	82	102	122	241	101	201	221	241	266	280	300				INTER SIZE D	SI ZE	23	2 4	82	1 02	122	161	181	201	221	241	260	300		
FLIGHT E78- PARTICLE	SCATTER	4.39E+06	1.81E+07	9.36E+06	2.17E+06	5.40E+05	5.60E+15		• •		• •	. 0	.0		. 0	6.95E-06	9		PARTICLE	SCATTER	6.20E+06	7.345+06	1.136+06	1.13E+06	5.58E+05	0		• 0	0.		• •			9.485-05
	SI ZE	2	t	9	80	10	12	4 .	16	18	200	54	92	28	30	CHC	4500			ST ZE	~ .	,	000	10	15		100	20	22	54	58	82	,	07
6 I NG	(81) d	94266	ALT (KM)	. 223		TEMP (C)	10.3		DEMPOINT	0.	136 (4/6)	77.1				D. TOTALS	0 0000 00	EN CL LASS		C (HB)		ALT (KM)	100.	TENP (C)	10.4	TA TOUDDY	3.		TAS (4/5)	78.2			TOTALS	
20 SECOND AVERAGING 22120* IUMBER H**3-M1)	PRES I P PRS BE		0.0	0.	.0	0.	0.	.0						0.	.0	9.	0		WHEE3-HA)	PRESTP PR38E	0.		• •	. 0	.0	• 0		9.	.0	.0	.0	•	•	
20 SE 1132120* (NUMBER	SIZE	707	249	446	1241	1538	1835	2132	5429	27.26	5025	3520	3914	4211	4508				0:32:40* (NUMBER	SIZE (MU)	101	249	1241	1538	1835	2132	2726	3023	3320	3617	3914	4211	5	
10 JUL 78 20 SECOND AVER INVENTAL STATISTORS (NUMBER H**3-MY SIZE DISTRIBUTIONS (NUMBER H**3-MY TYPE: RAIN	CLOUD			0	0.0	.0	0.	.0	• 9	• 0	•	•			.0				INTERVAL START+*20132140* PARTICLE SIZE DISTRIBUTICNS (NUMBER/M**3-M4) TYPE: RAIN	CLOUD	.0	• 0	•••			.0	• •		0.0	.0	.0	•	•	
		24	13	62	82	102	122	145	161	181	201	221	260	280	300				INTER SIZE D	SI ZE	23	43	29	102	122	145	181	201	221	241	260	280	200	
INTER SIZE D	SIZE																		CLE		10			2 10										
FLISHT E78-23 ON INTER PARTICLE SIZE D	SCATTER SIZE PRCBE (MU)	1 175405	1.66F+07	1-135+07	1.19E+06	2.97F+06	5.88E+05	.0	.0	.0	.0	• 0			.0	0 4.05-06	9.406		PARTI	SCATTER	4.06E+06	1.23E+07	8.25E+06	5.88E+35	0.					9.	9.		•	

	6 I NG	P (M9)		ALI (KY)		TENP (C)	4.6	DEMPOTAT		TAS (M/S)	78.0			TOTALS	:			P (MB)		ALT (KM)	. 302	TEND (P)	10.0		DEMPOINT	9.	100 100	145 (A/S)	2001			G.
1 FGL	20 SE2 OND AVERAGING 4120* UMBER/ M**3-M9)	PRESTP PROBE			• •	٠.	• •	. 0	•			•	::		•	(H++3-H4)		PRESTA		•	• •	• •	.0	0.		•	•	•				•
ruoy By	20 SE 134120* (NUMBER	SIZE (MU)	101	044	1241	1538	1835	2429	2726	3320	3617	3914	4508			134140°		SIZE	101	249	176	1578	1835	2132	5459	2726	3023	3320	1016	4211	4508	
AFHL MARINE LAYFR STUDY BY 1FGL	IGHT E78-23 ON 10 JUL 78 20 SEJOND AVER INTERVÄLL STARTI*20 134-20* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M***-MM)	CLOUD		• •		• • • • • • • • • • • • • • • • • • • •		::	• • •		. 0	•	• •	c		INTE? VAL START #20 13414 D* SIZE DISTRIBUTIONS (NUMBERVH**3-M)	TYPE: RAIN	CLCUD	. 0	. 0	• •		• •	• 9	0.	•	• • •	• • • •	• ·		0.	3.
AFML MAR	INTER	SIZE	23	2 4 5	82	102	122	161	181	221	241	260	300			INTER SIZE DI		SIZE (MU)	23	43	62	102	122	145	161	181	201	221	260	280	300	
	FLIGHT E78-23 ON INTER PARTICLE SIZE	SCATTER PROBE	5.29E+06	7.62F+06	3.52E+06	2.36E+06	5.85E+05	0.	.0.	• • •	0.	•		0	8	PARTICLE		SCATTER PROBE	4.77E+06	1.49E+07	7.22E+06	4.405405	5.93E+05	6.03E+05	• 0	•	•	•			0.	8.15E-06
IMIA		31 26	013	t • • •) s o	10	15	16	18	22	54	56	30		7 0 0 1			SIZE	~	t	e a	0 0	15	14	16	18	50	22	5 6	28 2	3.0	347
× + × ×		P (MB)		ALT (KM)	. 200	TEMP (C)	10.0	DEMPOTINT	•	1745 (4/6)	74.6			TOTALS	9			P (HB)		ALT (KM)	. 311	101	9.7		DEMPOINT	0.		TAS (#/S)	(2.3			TOTALS G.
FGL	20 SESOND AVERAGING 133140* (NUMBER/M*3-MM)	PRESTP PRSBE								•					0	Î									0							
>	W * &	a	0						. 0						•	***		PRECIP PROBE	.9	. 9	.0	•	• •			.0	.0		•			
nDY 3	22	SIZE P			1241 0					3023 0.			4508 0.		• •	01.34100*		SIZE PRECIP	404	647 6.			1938 0.			2725 0.					4508 0.	
TINE LAYER STUDY 9	22					1538	1835		2726	3023		3914	4211		.,	VAL STARTI*20:34:00* Febtellions (NIMRED/M**3	TYPE FAIN			0. 647 6.	116	1241	1558		5459		3023	3320	3617	3914		
THE MARINE LAYER STUDY 9	10 JUL 78 VAL START#20 13 ISTRIBUTIONS (N	SIZE	101	0.	0. 944	1538	1835	0. 2136	0. 2726	3023	0. 3520	3914	4211	,		INTERVAL STARTIFZ0134400"	TYPES PAIN	SIZE		0.	116 .0	1241	1558	2132	62.5	0.0	0. 3023	0. 3320	3617	3914	4508	
AFML MARINE LAYER STUDY 3Y AFGL	22	CLOUD SIZE PROBE (MU)	23 0. 404	43 0.	0. 944	102 0. 1538	122 0. 1835	142 0. 2132	0. 2726	201 0. 3023	0. 3520	264 0. 3914	300 0 4211			9	NIN TOTAL STEE STATES STATES	CLOUD SIZE PROBE (MU)	101	43 0.	62 0. 944	82 0. 1241	102 0. 1538	2132	161 6. 2429	0.0	201 0. 3023	221 0. 3320	3617	260 0. 3914	4508	

	5 I NG	P (MB)	ALT CKM	31.2	•	TEND (C)	10.1		DEMPOINT	•	TAS (4/5)	76.2				101aL	;					P (MB) 985.7		ALI (A)		TEMP (C)	6.6		DEMPOINT	•	TAS (M/S)	75.2			TOTAL			
1FGL	20 SE3CD AVERAGING 1514.0* IUMBERZ M**3-M1)	PRESIP					.0	.0		•	•		0.	.,	.0			,		(Hees - H4)	PRESIP	PROBE	٠.	•	•	. 0	0.	.0	• •	•	• •	;;						
ruby 8Y	20 SE'	SI ZE	404	110	1241	1538	1835	2132	5459	27.26	3350	3617	3914	4211	4508				0136100	CNUMBER	SIZE	CHO	404	240	1241	1538	1835	2132	5459	2726	3053	3617	3914	4211	4508			
AFML MARINE LAYER STUDY BY AFGL	IGHT E78-23 ON 10 JUL 78 20 SESC.,D AVER INTERVAL STARTT* 2013540* PARTICLE SIZE DISREGUTIONS (NUMBER/H**?-MM) TYPE: RAIN	CLOUD	•	•			• 0	.0	•		•			0.	.0	c	•	,	INTERVAL STARTIT 20136100	SIZE DISTRIBUTIONS (NUMBER/M**3-M4) TYPE: RAIN	CLOUD	PPCBE	.,	•	•			0.	0.		•			.0			,	
IFWL MAR	1 INTERV	SIZE (MU)	23	200	200	102	122	145	161	181	231	27.4	260	280	300				INTER	SIZE	SIZE	(M)	23	43	220	102	122	145	161	181	201	261	260	280	300			
	FLIGHT E78-23 ON INTER PARTICLE SIZE 0	SCATTER PROBE	7.80E+06	1.03E+07	6.04E+35	0.		6.09E+05	. 0	•	•	•	9.		.0		20-344-0	o		PARTICLE	SCATTER	PROBE	9.72E+06	1.52E+07	5.69E+0+	1.225406	6.15E+05	6.01E+05	.0	• • •	•		• • •		.0	9.24E-06	•	
DATA		SI ZE	۸.	* *	o a	100	15	14	15	œ (25	220	56	2 2	30		200	D D dr			SIZE	(40)	2	, t	0 0		15	14	16	1.8	23	77	25	28	30	000	1100	
PASS # 8 DATA	ING	P (M8)		ALT (KM)	108.	TCMD (C)	0.0		DEMPOTNT			TAS (4/S)	75.5			TOTALS		0				P (MB)		ALT (KM)	• 304	100	LA CO		DEMPOINT	0.		TAS (M/S)	5.00			1.91E-05	£4	
FGL	20 SECOND A VERAGING St04* UMBER/ N**3-M1)	PROBE	.0	.0	.0	•	•••			.0	.0	0.	•	•	• •		.0	0		(M+83-H)	01,200	PROBE		0.	.,		•	• •			.0	•	. 0	••		0.	•	
JOY BY A	20 SEC 135100* (NUMBER	SIZE	101	249	446	1241	1538	1835	2429	2726	3023	3320	3617	3914	4211				135120	CNUMBER	24.10	(MU)	101	249	116	1241	1538	21 32	2429	2726	3023	3320	3617	5914	4508			
AFML MARINE LAYFR STUDY BY AFGI	ISHT E78-23 ON 10 JUL 78 20 SECOND AVEF INTEVAL START#2.035#10# PARTICLE SIZE DISSREUGHIONS KNUMBER/M**3-MM TYPE* RAIN	CLOUD		.0	.0			•	•			.0	• 0	•	•	•	0.	0	*0.415.041.420135120*	SIZE DISTRIBUTIONS (NUMBER/M##3-MM) TYPE: RAIN		PROBE		2.28E+04	.0	.0		•				.0	.0			1.91E-05	, 43	
FHL MAR	23 ON INTERV SIZE DI	SIZE (MU)	23	43	62	82	102	122	741	181	201	221	241	260	280	200			TATES	SIZE D.		NU)	23	, m	62	82	102	122	747	181	201	221	241	260	300			
d	FLISHT E78-23 ON INTER PARTICLE SIZE	SCATTER	4.845+06	1.335+07	7.27E+06	4.25E+06	6.07E+05	1.21E+06				0	9.	0.	•	• 0	8.55E-06	60		PARTICLE		PROBE	304 300 3	1.87F+07	1.145+07	2.39E+06	6.00E+05	1.20E+06	5.91E+U5	•		.0	.0	.00		1.075-05		
		STZE	~			00	10	15	5 .	0 4	50	22	54	56	28	30	0.3	4300				ST ZE	•	L 0	9	80	10	15	17	0 4	20	22	54	26	30		450 D	

GING		P (MB)	3030	ALT (KH)	. 306	TEND (C)	LENP 10	10.	DEMPOINT	•		TAS (M/S)	76.0			TOTAL	0.			-		P (MB)		ALT (KH)	. 30		TEMP (C)	100	DENPOINT	•		TAS (M/S)	75.1			TOTAL
20 SECOND AVERAGING 7 8 8 8 4 UMBER W # # 3 - MI)	PRESIP	PRJBE	0.	0.	.0		•			.0	.0	•		•		;	0.			(Her 3-NA)	PRESIP	PROBE	0.	.0			•				.0			•	•	
20 SE	SIZE	(MI)	707	249	776	1241	1550	2132	5459	2726	3023	3320	3617	1211	4508		or and metally in			CNUMBER	SIZE	CHO	404	249	116	1541	1538	21.42	2429	2726	3023	3320	3617	3914	4511	
IGHT E78-23 ON 10 JUL 78 20 SESOND AVER Inference of Street 18 CONTROLES OF STROP TYPE: RAIN	CLOUD	PROBE	0.	.0	•	. 0	•	• •		.0	.0		•				0.		THYCOLA STADT - STATE OF	PARTICLE SIZE DISTRIBUTIONS (NUMBER/ H*#3-NY)	CLOUD	PRCBE	0.	.0	.0					0.	.0		0.		•••	
INTERV SIZE DI	SI ZE	CMO	23	43	62	28	7 33	142	161	181	201	221	241	280	360				TWEE	SIZE DI	SIZE	SHO	23	43	62	85	102	162	161	181	201	221	241	260	300	:
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	PR 08E	3.01E+06	1.20E+07	6.62E+06	4 90E+05	7.005.00	•	0.	.0	•	•	•	•		:	6.18E-06	7		PARTICLE	SCATTER	PROBE	3.66E+06	1.70E+07	4.26E+06	1.82E+06	1.83E+U6			.0	6.06E+05	6.12E+05	•	•	• • •	;
	SI ZE	(MA)	2	3	9		12	14	16	18	20	25	* "	2 8	30	1	2#7	0 0 3 7			SI ZE	(40)	2	t	9	0	10	14	16	18	50	25	54	92	36	;
		8		KH	. 310	137			INT	0.		(H/S)	8.9			TOTALS				-		985.5		ALT (KM)	. 308		500	4.4	I MT	•		18/1	77.3			TOTALS
9 VI 19		P (MB)		ALT (KM)		TEND	ובחו		DEMPOINT		-	TAS					0.							ALT		-	TEND		DE WP OI NT			TAS (H/S)				-
COND AVERAGING	PRESIP	۵.	0.	ALT		TEND			C. DEMPO	0.		TAS	• 0		0.		0.	0		/H++3-M)	PRESIP		0.	O. ALT	•0•	.0	O. TEMP		0. DEMPC	0.	0.	O. TAS	0.			-
20 SECOND AVERAGING 0136120* (NUMBER/M**3-MM)		PRJBE	0.	O. ALT	•		• •	2132 0.	•		.0	D. TAS	3517 0.		4508 0.			0	36.26.00	(NUMBER/ H**3-14)	PRESIP		*0 *0*	.0		.0		2132 0.		0.	3023 0.	O. TAS	3617 0.	3914 0.	4508 0.	
10 JUL 76 20 SECOND AVERAGING ALL STARTY-20:36:20* ISTRIBUTIONS (NUMBER/W**3-MY) TYPE: RAIN	PRESIP	(MU) PROBE P	0.	O. ALT	•		• •		•		.0	D. TAS			4508			9	UAI CTADY (\$20) (25.00	ISTRIBUTIONS (NUMBER/M**3-M)	PRESIP	(MU) PROBE	0. 404 0.	.0	116	1241 0.			2429 0.	0.	3023 0.	3320 0. TAS			0. 4211 0.	
10 JUL 78 2VAL STARTE*2013 ISTRIEUTIONS (N	SIZE PRESIP	PROBE (MU) PROBE P	0.	0. 647 0. ALT	9,000	0 1521	1000		0. 2429 0.	0. 2726	0. 3023 0.	0. 3320 D. TAS	3617	4211	0. 4508			9	TATES UM CTADT #820 - 25 - 1.00	S	SIZE PRESIP	PROBE (MU) PROBE	23 0. 404 0.	0. 647 0.	116	1241 0.	1538 0.		0. 2429 0.	0. 2726 0.	0. 3023 0.	0. 3320 0. TAS		•		
FLIGHT E78-23 ON 16 JUL 78 20 SECOND AVERAGING INTERVAL STARTI*20:336:20* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**5-HM) TYPE: RAIN	SIZE CLOUD SIZE PREJIP	PROBE (MU) PROBE P	23 0. 404 0.	43 0. 647 0. ALT	9,000	1621	122 0. 1936 0.	142 0. 2132	0. 2429 0.	0. 2726	0. 3023 0.	0. 3320 D. TAS	3617	280 0. 4211	0. 4508		0.0	9	TUTED UM CTAND 0020 1664 00	PARTICLE SIZE DISTRIBUTIONS (NUMBER/ N**3-MM)	CL OUD SIZE PRESIP	(MU) PROBE (MU) PROBE	23 0.	43 0, 647 0.	944	1241 0.	1538 0.	142 0	161 0. 2429 0.	0. 2726 0.	201 0. 3023 0.	221 0. 3320 0. TAS		200 0.		

AG I NG	GH) q	985.8	ALT (KM)	.306	TEND (C)	10.2		DEMPOINT	•	TAS (M/S)	6.92			TOTALS	.0	9				P (MB)		ALT (KH)	. 305	TEND (C)	10.2		DEMP OI NT	0.		TAS (H/S)	76.1			D. TOTALS
20 SECOND AVERAGING 18120* IUMBER M**3-M1)	PRESIP PR38E		•	•	• •		••	•	• •	.0	.0	• •	•	;	.0	6		/H+#3-H)	PRESTP	PR38E	.0		•			0.				•	•			
20 SF 18381204 (NUMBE	SIZE	707	647	776	1538	1835	2132	5242	3023	3320	3617	3914	4508					(NUMBER	SIZE	(MO	404	249	1244	1538	1835	2132	5459	2726	3023	3350	3914	4211	4508	
IGHT E78-23 ON 10 JUL 78 20 SECOND AVER INTERVAL START#=20.38.20# PARTICLE SIZE DISTREATIONS (NUMBER/M**3-MM) TYPE: RAIN	CLOUD	0.		•	• • •	. 0	•	•	• •			•			.0	0	ACT OF THE PARTY O	PARTICLE SIZE DISTRENTIONS (NUMBER/M##3-MM) TYPE: RAIN	CL OUD	PROBE	•0	•	•		0.	.0	•	•	•	•	•			0.
-23 ON INTER SIZE D	SIZE	23	F 4	62	192	122	145	181	201	221	241	280	300				TWIE	SIZEO	SI ZE	S S	23	m+	200	162	122	145	161	181	201	241	260	280	300	
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER PROBE	4-15E+06	9.52E+06	6.55E+06	1.185+06		•			.0	•	• •			4.57E-06	9		PARTICLE	SCATTER	PROBE	4.81E+05	1.26E+07	1.195+06	6.04E+05		0.	•	.0	•	•			0.	3.75E-06
	SI ZE	2	*	6	10	15	* 4		50	22	3,5	28	30		277	WE 0 0			SI ZE	305	2	J .	o «	10	12	14	16	61	32	37	5.5	28	30	LHC
											_	_	_	_	_	_					_	_	_	-	_									
ING	(84)	985.2	ALT (KM)	.311	TEMP (C)	6.6	70 70 00 00	DEMINITURE OF	:	TAS (M/S)	17.5			. TOTALS	.0	D				985.1		ALT (KH)	. 312	TEMP (C)	10.0		DEMPOINT		137 77 241	78.3				n.
ECOND AVERAGING	PRESTP P (MB)	985.2	G. ALT (KM)	. 311	G. TEMP (C)	6.6		000000000000000000000000000000000000000		O. TAS (M/S)				. TOTALS		D		3/ 11003-114)		PRJBE P (MB) 985.1	•0	O. ALT (KM)	. 312	0. TEMP (C)	10.0	.	G. DEMPOINT			78.3				D. DIALS
20 SECOND AVERAGING 0137140* (NUMBER/ H**3-M)	•	0.	G. ALT		• •	•	2132 6.	10 44 0		0. TAS		4211 0.	::					(NUMBER/H**3-M)	PRECIP	PRJBE	•0 +0+	O. ALT	• •		.0	.,	2429 G. DEMPOINT	•	• •					O. O.
10 JUL 78 20 SECOND AVERAGING VAL START #201374.0* ISTRIBUTIONS (NUMBER/M**3-141) TYPE: RAIN	PRESTP PROBE	0.	G. ALT		• •	•		10 44 0		0. TAS	3617 0.						AN CTADY BE O COTE OF THE	ISTRIBUTIONS (NUMBER/H**3-M4)	PRECIP	(MU) PRJBE	•	O. ALT	• •		.0	2132 0.	2429 G. DEMPOI	•	• •	3617 0.	3914 0.		4508 0.	
10 JUL 78 EVAL START # 2013 DISTRIGUTIONS (N) TYPE: RAIN	SIZE PRECIP (MU) PROBE	.0 +04	0. 647 0. ALT		0. 1538 0.	0. 1835 0.		8. 2726 0. DENFOL	3023 0.	0. 3320 0. TAS	3617 0.	5914	0. 4508 0.				TATES VAL CTADT -42 0 0 120 0 0 12	S	SIZE PRESIP	PROBE (MU) PROBE	•	0. 647 0. ALT	1261	1538 0.	0. 1835 0.	0. 2132 C.	2429 G. DEMPOI	2022 0	3063 0.	3617 0	3914 0.	4211	0. 4508 0.	.0
FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING INTERVAL START#20137140* PARTICLE SIZE DISTREUTIONS (NUMBER/H**3-M) TYPE: RAIN	CLOUD SIZE PRESIP PROBE (MU) PROBE	23 0. 464 0.	43 G. 647 G. ALT	944 0.	102 0. 1538 0.	0. 1835 0.	2132 6.	8. 2726 0. DENFOL	3023 0.	221 0. 3320 0. TAS	241 0. 3617 0.	0. 6211	0. 4508 0.				AND STANDED STANDARD INVESTMENT	PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**3-M)	R SIZE CLOUD SIZE PRESIP	(MU) PROBE (MU) PROBE	23 0. 404 0.	43 0. 647 0. ALT	1261	102 0. 1538 0.	122 0. 1835 0.	0. 2132 C.	0. 2429 G. DEWPOI	2022 0	3063 0.	3617 0	3914 0.	280 0. 4211	0. 4508 0.	8.04E-36 0. 0. 0.

1 NG	P (HB)		ALT (KM)	. 311	TEMP (C)	10.1		DEMPOINT	0.	TAS (M/S)	77.4			TOTALS		0			P (HB)		ALT (KH)	. 314	TENP (C)	10.1		DEMPOINT		1745 (4/5)	77.6			TOTALS	0
20 SEJOND AVERAGING 9140* UMBER/M**3-M9)	PRESTP FR3BE	. 3	• 0	•		9.	.0	• 0				.0	•	•	.0			(H+3-H)	PRESTP PROBE	.0		•			.0		•			.0			•
20 SE (139140*	SI ZE	707	249	776	1538	1835	2132	5459	2726	3320	3617	3914	4211	4200			*00:04:0	CNUMBER	SIZE (MU)	404	249	116	1538	1835	2132	5429	2022	3120	3617	3914	4211	4260	
IGHT E78-23 ON 10 JUL 78 20 SESOND AVER Intra-al State 19940* Particle Size Distributions (Number/H**5-MM) Type: Rain	CLOUD	.0	.0	•			.0	.0	• •			.0	•	•	0.	•	INTERVAL START 1" 2014 0:00"	PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M)	CLCUO	.0	.0	•	•	0.0		•		• •	. 0	.0		• •	
INTER SIZE DI	SIZE (MU)	23	43	62	102	125	145	161	181	221	241	260	286	200			INTER	SIZE 01	SIZE (MU)	23	43	62	100	122	145	161	181	221	241	260	286	200	
FLIGHT E78-23 ON INTER	SCATTER PROBE	2.96E+86	1.65E+07	6.53E+06	1.185.10	0.	5.90E+05	•	•			0.	•	•	6.89E-06	6 0		PARTICLE	SCATTER PROBE	5.30E+06	6.48E+06	3.54E+06	5.946405	5.97E+05		.0	•			0.	0.		
	ST ZE	2	3	φ •		12	14	16	18	200	54	56	58	200	C. L.	4: D 0			SI ZE	2	4	9 0	•	12	14	16	18	22	24	56	28	20	
ING	(MB) c	2	ALT (KH)	. 310	TEND CC1	19.1		DEMPOINT		TAS (W/S)	77.7			STATCT		6			P (HB)		ALT (KM)	.310	TONO CON	10.1		DEMPOINT	•	1745 (14/6)	77.9			TOTALS	2000
20 SEJOND AVERAGING 9:00* UMBER/M**3-MY)	PRESIP PR38E	0.	.0	• •	• • •		0.	0.	•				•	•	0.	•		(H+#3-H)	PRESIP	.0	0.	•	•			0.			•			••	
20 SE 139100* (NUMBER	SIZE	505	249	556	1541	1835	2132	5429	2726	1120	3617	3914	4211	4208			139120	(NUMBER	SIZE (MU)	404	249	446	1471	1835	2132	5459	2726	2222	3617	3914	4211	4203	
23 ON 10 JUL 78 20 SESOND AVER INTERNAL STARTI*20439100* SIZE DISTRIBUTIONS (NUMBER/M**5-MY) TYPE: RAIN	CLOUD	.0	.0	•	•		0.	0.	••	•		0.		•	0.		INTERVAL STARTIF 20139120*	SIZE DISTRIBUTIONS (NUMBER/M**3-M) TYPE: RAIN	CL OUD PRCBE	.0	9.	••	•	• •	0.	.0		•				•	
INTER	SIZE	23	£43	62	102	122	145	161	181	221	241	260	280	200			INTER	SIZE DI	SI ZE	23	43	62	28	155	145	191	181	197	241	260	280	200	
FLIGHT E78-23 ON INTER	SCATTER PROBE	1.176+06	9.436+06	5.30E+06	Z.34E+06	1.18E+06						0.			6.46E-06	80		PARTICLE	SCATTER	4.10E+06	3.23E+05	7.00E+06	3.500+00	1.18F+06									1 1 1 1 1 1
FLI	SC		6	in t	, u		0	D			0 0	0	0	0	9				S	3	æ	-	יו מ		0	9	0) C	0	, 0	0	_	

AGING		P (MB)		ALT (KH)	.309	TEND (C)	10.4		DEMPOINT	9.	TAS (M/S)	76.4	-		TOTALS		•		97.	987.1		305		TENP (C)	10.6	100000	0.		TAS (M/S)	77.1			TOTALS
20 SECOND AVERAGING 1100* UMBER/H**3-MI)	PRESIP	PROBE	0.		•				0.	•••				•	:	0.		/ H** 3-141)	PRECIP	3002	•					•		. 0		••		•••	
20 SE 141:00	SIZE	CHO?	101	249	116	1538	1835	2132	5459	2726	3320	3617	3914	4211	200			CNUMBER	SIZE		***	140	1241	1538	1835	2132	2726	3023	3320	3617	3914	4511	
FLIGHT E78-23 ON 10 JUL 76 20 SECOND AVER INTER VALSTARRIPSO 14100* PARTICLE SIZE DISTRIBUTIONS (NUMBER/H**3-MM) TYPER RAIN	CLOUD	PROBE	.0	•	•	: -	: :	.0	.0	••			•	•	:	0.		PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M)	CLOUD	3004	•		. 0	.0	•	•			.,		•	•••	
-23 ON INTER SIZE D	SIZE	CHO.	23	43	62	100	122	145	161	181	221	241	260	382	;			SIZE D	SIZE		35	200	82	102	122	245	181	201	221	241	260	360	
FLIGHT E78	SCATTER	PROBE	5.39E+05	1.08E+07	4.77E+06	0. 305.00		6.10E+05	0.	••			• 0	•	:	5.77E-86	8 0	PARTICLE	SCATTER	3002	4 4 35 + 03	5. 17F + 0 6	1.19E+05	1.20E+06	• 0	•	6.01E+05	0	0.		• 0	•••	
	ST ZE	(0+0)	2	4	uo ee	10	12	14	16	18	25	54	56	3.0	;	SHI	MED 0		SIZE	5	u -		000	10	15	* t	18	20	22	54	56	30	
ING		986.1		ALT (KH)	.320	TEMP (C)	10.0		DEMPOINT	0.	TAS (M/S)	77.6			TOTALS		G		6	985.1		212		TEMP (C)	10.2	DEMONTAL	0.		TAS (M/S)	78.5			TOTALS
20 SECOND AVERAGING 0120* UMBER/ M**3-M1)	PRESTP	PKJBE			•			.0	• • • •	•			•••	•	:			(M-8-3-HA)	PRESTP	700	•				•			.0	•	•	•	::	
20 S 140120 10048E	SIZE	(DE)	101	219	1244	1538	1835	2132	5459	2726	3320	3617	3914	4508				CNUMBER	SIZE		101	776	1241	1538	1835	2613	2726	3023	3320	3617	3914	4508	
ISHT E78-23 ON 10 JUL 76 20 SECOND AVEI INTERAAL STARTI*20140120* PARTICLE SIZE DISPRIBUTIONS (NUMBER/H**5-HH) TYPE! RAIN	00000	18086	;	.0					. 0			.0				0.	9	SIZE DISTRIBUTIONS (NUMBER/M++3-M4)	00013		•		.0			•		.0			•	•••	
E D	32 15	10.	23	5.4	82 K	102	122	145	161	181	221	241	260	300				 SIZED	SIZE		2 2 3	62	82	102	122	147	181	201	221	241	286	300	
512								100								50		PARTICLE	œ.,	,	200	90	50.		92								
FLISHT ET8-23 ON INTE	SCATTER	200	4.70 6+36	1.366.07	S. MAE . 0.6	196+06	\$ 1E+35	50.37.5					•			1.048-05	0	8	SCATTER	1 74.5406	1 345 467	4.67E+16	5.79E+05		5.81E+05		.0	.0					

ING	P (MB)	1.5.1	ALT (KH)	. 396		TEMP (C)	4.6	DEU0.01 LT	DEMPOTING		TAS (M/S)	82.1				TOTALS	;					959.6		ALT (KR)	636.	TEMP (C)	8.7		DEMPOINT		TAS (#/S)	86.1	The state of the s		TOTALS	D. COMPA	;
20 SEC OND AVERAGING 2120* IUMBER/M*3-MM	PRESTP PR38E	0.						•			0.		0.		:		;			/Hee3-HI)	PRESIP	PROBE			•	0.		.0		•			0.			0.	
20 SE	SIZE (MU)	404	249	116	1541	1538	1835	2132	6247	3023	3320	3617	3914	4211	4508	-			*42:40	CNUMBER	SIZE	9	404	149	1241	1538	1835	2132	5459	2726	3350	3617	3914	4211	4508		
IGHT E78-23 ON 10 JUL 78 20 SECOND AVER INTER VAL STARTIF20.42.20* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M)	CLOUD	0.	0.	0.		0.		•	•••	•	0		0.	•		-	;		INTERVAL STARTER 20142140	SIZE DISTRIBUTIONS (NUMBER/M**3-MM) TYPE: RAIN	CLOUC	PROBE		•	•	0.	•	.0		•			0.			.0	••
INTER SIZE	SIZE	23	43	62	82	162	122	145	101	201	221	241	560	280	300				INTE		SIZE	S S	23	25	82	102	122	145	161	181	221	241	260	280	300		
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	2.78E+06	1.40E+07	5.02E+06	5.48E+05	.0		•	•				.0			2.835-06	2000	,		PARTICLE	SCATTER	PROBE	4.75E+06	8.045+06	5.246+05	0.			•	•		. 0	.0			1.46E-06	7.405-00
	SI ZE	2	4	9	•	10	15	51.	100	18	22	54	56	28	30	-	2				SI ZE	COND	2 .	* "	0 00	16	12	14	16	18	22	54	92	28	30	J. N.C.	>
2 ING	(BH.) d	2000	ALT (KM)	. 314		TEMP (C)	10.3	100000	DEMPOINT		TAS (M/S)	76.3				TOTALS	•	END OF PASS				984.5		ALT (KM)	. 31.6	TEMP (C)	10.4		DEMPOINT	•	TAS (M/S)	78.1			TOTALS	3.67F-05	2001 6-02
20 SE3 OND A VERAGING 11140* IUMBER! M**3-M1)	PRESTP	9		.,				•	•	•				.0				, ,		(H+63-H/)	PRESIP	PRO BE	0.		•			• 0		•			0.				•
20 SE 841 840* (NUMBER	SIZE (MU)	707	647	776	1541	1538	1835	2132	5459	2726	3320	3617	3914	4211	4508				142100	CNUMBER	SIZE	(MA)	505	249	1361	1538	1835	2132	5429	2726	3300	3617	3914	4211	4508		
IGHT E78-23 ON 10 JUL 78 20 SESOND AVER INTERAL STARTISCO 6416.0* PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-M) TYPE: RAIN	CLOUD		. 0	.,	•	.0	.0	•	•	•	• •				.0		• • •	•	TATES VAL START #20 14210 08	SIZE DISTRIBUTIONS (NUMBER/H**3-MY) TYPE: RATH	CLOUD	PRCBE	.0		6 245467			.0	.0	•				.0	•	2 675-05	3.6/1-02
INTER SIZE D	SIZE	23	43	62	82	102	122	145	161	181	224	241	260	286	300				TATES		SIZE	(MC)	23	143	95	102	122	145	161	181	222	241	260	280	300		
FLIGHT E78-23 ON INTER PARTICLE SIZE D	SCATTER	1.205+06	1.50 E+07	3.03E+06	6.05E+05	1.198+06		1.82E+06	5.93E+05								1.18E-U5	4		PARTICLE	SCATTER	PROBE	4.13E+06	1.0 SE+07	5.85E+06	1 1 75 +06		0.0	0.							20-10	5.49E-06
4	SCA			3.	9		0		in					c	0		÷				S		3	-	נת ר		1 13	D	0	0	9 () e	0	0	0	·	ĺ